AIR FORCE MATERIEL COMMAND

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AFMC — Meeting global challenges

Special Edition Almanac

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Air Force Materiel Command Almanac

Air Logistics Centers

Test Centers

Product Centers

Science and Technology

Specialized Units

Total Force

This page: The Air Force Materiel Command develops, acquires and sustains air and space technology investments into warfighter capabilities, such as this F-16 Fighting Falcon. (Photo by Staff Sgt. Cecilio Ricardo Jr.) Cover: The Air Force Materiel Command's Operations Center serves as a focal point for warfighter support. Photo by 2nd Lt. Gailyn Whitman, AFMC/PA. Cover design by Ms. Libby VanHook, AFMC/PA.

The sun slides behind the mountains at an Operation Enduring Freedom forward operating location as a C-130 Hercules rests after a long day. The men and women of Warner Robins Air Logistics Center at Robins AFB, Ga., have helped support the warfighter by accelerating the delivery of eight C-130 aircraft for use in support of Operation Iraqi Freedom. (Photo by Master Sgt. Thomas Meneguin)

AFMC: *Command's readiness ensures warfighter success*

Air Force Materiel Command people carry out the Air Force's most diverse mission every day.

From developing state-of-the-art technologies and testing them to ensure they'll work properly when needed, to maintaining the service's weapon systems through their service life and beyond retirement, AFMC people touch every aspect of the broader Air Force mission.

But still, AFMC people are often asked what it is, exactly, that they do. To that, Gen. Lester Lyles, AFMC commander, replies: "Look around you, what are you operating? What are you flying? What computer systems are you working with? What software are you involved in? What capabilities are you providing to our national security system? By and large, whatever that is, it was developed, acquired and sustained by Air Force Materiel Command."

Working to overcome AFMC's past challenges with acquisition development time that translated into decades and scheduled depot maintenance that took more than a year to perform, Gen. Lyles recently delivered a roadmap based on four expectations to help the command transform into the focused warfighter support entity he said it needs to be.

Focus on support

Having an expeditionary mindset and culture as well as being innovative, adaptive and responsive; being easy to do business with; and being effective and efficient rounded out the general's expectations for AFMC. These expectations armed AFMC people to focus on supporting America's warfighters, and Gen. Lyles said AFMC is starting to see some progress. As a result, field leaders such as Lt. Gen. Michael Moseley, 9th Air Force and U.S. Central Comand Air Forces commander, are appreciative.

"We put bombs on target in Operation Iraqi Freedom with greater precision and less risk to our people than ever before, and Air Force Materiel Command people made that possible," Gen. Moseley said. "AFMC is wholeheartedly backing their 'warfighter support' vision."

According to Col. Bruce Litchfield, former AFMC transformation office deputy director, those bombs hit their targets during recent military operations because AFMC people were ready to go to war before it broke out and support the people fighting once they got there.

"If we had to change something to support contingency operations, we probably weren't doing it right," Col. Litchfield said.

In addition to providing technology, AFMC people also deploy to support contingency operations. In fact, 20,000 of the command's 23,000 military members are assigned against 7,000 unit type codes, making them deployable for any contingency, according to Mr. Mike Self, AFMC battle staff deputy director.

Setting examples

And it's not just the military people who deploy. Some of the command's 60,000 plus civilian employees have deployed as well.

As an example, according to Ms. Barbara Denham, AFMC aircraft battle damage repair engineering functional manager, a Warner Robins Air Logistics Center member at Robins Air Force Base, Ga., recently departed as the Air Force's first civilian to deploy as an ABDR engineer.

"He's one of six engineers who have made deploying a condition of their employment," Ms. Denham said. "AFMC is the only source of ABDR engineers for the Air Force, so it made sense to deploy civilian employees who volunteered to do so."

Looking at AFMC's ability to be innovative, adaptive and responsive, Gen. Lyles said updated acquisition processes are leading the charge toward warfighter support.

According to Gen. Lyles, agile acquisition processes are getting new technologies to the warfighter faster than ever before. One way that's happening is through spiral development.

Through what Gen. Lyles called an iterative process, acquisition experts work collaboratively with the warfighter to develop, in stages, the requirements the warfighter needs. Often the warfighter and program manager can find an 80 percent solution that can be fielded today, rather than years from now.

Mr. David Franke, AFMC Acquisition Center of Excellence director, said, "The process is designed to be a leaner, more effective approach to designing, building, testing, fielding and supporting the weapon systems warfighters need. It gives us the ability to get today's technology to the warfighter today."

In the past year, AFMC experts expedited the release of more than 20 capabilities to support U.S. military operations, Mr. Franke said. As of March, AFMC acquisition teams, under guidance from officials from the Office of the Assistant Secretary of the Air Force for Acquisition, are working rapidly to field several new technologies Air Force Research Laboratory experts developed. These include air battlefield operations kits, massive ordnance air burst munitions and panoramic night-vision goggles.

> *"We've been able to put bombs on target in this operation with greater precision and less risk to our people than ever before, and Air Force Materiel Command people are making that possible. AFMC is wholeheartedly backing their 'warfighter support' vision."*
>
> Lt. Gen. T. Michael Moseley

Successful acquisitions

Air Force Leaders have also cited the small unmanned aerial vehicle, known as "Desert Hawk," as an acquisition success. Warfighters requested this capability during Operation Enduring Freedom, and acquisition team members at AFMC's Electronic Systems Center equipped eight forward-deployed bases with the system. According to Col. Charles Lyons, 57th Operations Group commander, the Desert Hawk performs much like the RQ-1A Predator that's having a strong impact in the field.

"You should be proud," he said. "The Predators swarmed over Iraq — working with the Air Force, Army and Marines to defeat Saddam Hussein. Bold steps require risk takers, and AFMC researchers continue to step out smartly to keep the Air Force on the leading edge. Not everyone gets it — but you guys do!"

Along with Desert Hawk and other new capabilities, Mr Louis Schwieterman, Revolutionizing Training Division deputy chief, said AFMC people help warfighters maintain their fighting edge with the very latest in training aids and technology. This includes simulators managed through the Aeronautical Systems Center's Training Systems Product Group here.

And the training couldn't be better or more realistic, according to a South Carolina Air National Guard F-16 pilot who recently completed simulator training at Shaw Air Force Base, S.C. and was part of the initial air campaign for

AFMC *continued on Page 6*

Dr. Diana Loree, Air Force Research Laboratory Directed Energy Directorate, talks to the media about active denial technology during a recent presentation where the latest war technologies were showcased for visitors at Headquarters Air Force Materiel Command. (Photo by 2nd Lt. Gailyn Whitman, AFMC Public Affairs)

AFMC *continued from Page 5*

part of the initial air campaign for Operation Iraqi Freedom.

"I was 'downtown' at the start of tonight's activities and got to launch the first AGM-88 high-speed anti-radiation missile," he said. "The cool part is that the location of my flight and the tactics employed were exactly like we were practicing in the simulator at Shaw before we left. It was pretty cool to see the terrain and scenario as practiced. Talk about mission rehearsal!"

Logistical support

Just as AFMC's scientists and engineers are focused on equipping the warfighter with the best technology, AFMC's logisticians are equally vigilant in maintaining those systems. AFMC Logistics Director Maj. Gen. Terry Gabreski said she receives daily, from each major command, a list that tells AFMC what parts or supplies are needed across the spectrum for each aircraft, radio and computer system or any other systems needing maintenance support.

She said the list helps AFMC logisticians work with each supply chain manager to make sure all items on the list get back in service as quickly as possible.

"We're not focusing on 'just-in-time-parts,' but by using the list we can look for trends and try to determine what parts will be needed and make sure those are on the shelf and ready when maintainers need them," Gen. Gabreski said. "Aircraft status is at the highest level it's been in years."

Gen. Gabreski said the most significant impact of this transformational effort is the men and women who work at AFMC's three air logistics centers.

"They're committed to improving processes that decrease the cycle time a part or aircraft remains in maintenance," she said.

According to Gen. Lyles, Depot Maintenance Reengineering and Transformation, commonly know as DMRT, has changed the way depot maintainers perform their mission.

"The depot reengineering and transformation started the air logistics centers on the right path of getting back to basics, or focusing on sustaining America's air and space assets," he said. "Regarding the sustainment mission, we are much more efficient than in the past. We have even seen our mission capable rates go up because of DMRT."

> *"We develop all the cutting edge technology for our warfighters and we sustain all the weapon systems. This is the heart and soul of everything that the Air Force needs to accomplish its mission."*
>
> Gen. Lester Lyles

Going the extra mile

These efforts helped experts at the Oklahoma City Air Logistics Center at Tinker Air Force Base, Okla., achieve the highest level of serviceable spare F-100 engines in history under the leaner depot maintenance practices. The F-100 engine powers many Air Force fighter aircraft.

And people at Warner Robins ALC shaved months off delivering eight C-130 aircraft back to Air Force Special Operations Command and Air Force Reserve Command to support military operations around the world.

Along with innovation, adaptability and responsiveness came confusion in years past, according to Gen. Lyles. "Enterprise Leadership," AFMC's effort to provide a single point of contact for related Air Force systems, has changed that and the general said that's driving his expectation that the command will be easeir to do business with.

A problem with different types of aircraft involved in a recent military operation not being able to communicate with one another serves as an example.

"The way we've managed things in the past the F-16 program manager could decide when he would upgrade communications in that platform, the F-18 program manager could decide the same within the Navy and the F-15 program manager could do the same. We didn't have a common way of making sure we had that key capability for the warfighter," Gen. Lyles said. "We needed a single person to be able to look across different programs and link them in a manner that reduced cost, increased military effectiveness and allowed the synergism of the programs to take place for the benefit of the taxpayer and the warfighter. That's why we put this initiative together."

No matter how great the technology, how true the simulation or how well the system is maintained, Gen. Lyles said being effective and efficient are musts — and AFMC is again hitting the mark.

During the war in Iraq, Gen. Lyles said teams from Edwards AFB, Calif., accelerated testing on an F-16 software fix that came from Ogden Air Logistics Center at Hill AFB, Utah. During Operation Iraqi Freedom, F-16 pilots were having problems releasing their munition which was impacting their ability to carry out their missions.

Hill experts said the problem was related to the release software and Ogden established a fix in a matter of hours. Test pilots at Edwards then tested and confirmed the fix, and the new software was delivered to the field within 30 hours — a process test experts said normally would have taken weeks.

Setting the pace

As the world watched the U.S. military shape history in its recent operations, Gen. Lyles said AFMC's people allowed the warfighters to set the pace needed to be successful. Command professionals did that because they were ready, and the general said that's something he takes great pride in.

"AFMC people are developing, acquiring and sustaining the most advanced air and space technologies and systems to give our warfighters the capabilities they need to accomplish their missions and return home safely," he said. "We've come a long way from where we were a few years ago, but we must still continue further on this journey.

"I'm very proud to be part of this team and know we'll continue to improve and provide our Air Force war-winning capabilities."

— 2nd Lt. Gailyn Whitman and Tech. Sgt. Carl Norman, AFMC/PA, contributed to this story

Left to right: Mr. Garry Richey, deputy director for supply management logistics division, Maj. Gen. Terry Gabreski, logistics directorate director, and Ms. Debby Walker, deputy director for depot maintenance logistics division, review a daily list from each major command that tells AFMC what supplies are currently needed for warfighter support. (Photo by 2nd Lt. Gailyn Whitman, AFMC Public Affairs)

Left to right: Mr. Kenneth Huff, Mr. Dwight Early, Mr. David Weber, Mr. David Franke and Ms. Deanna Golem from the AFMC's Acquisition Center of Excellence. Mr. Franke, director, explains how discovery map training will help his acquisition teammates develop a new approach to agile acquisition. (Photo by 2nd Lt. Gailyn Whitman, AFMC Public Affairs)

Problem solvers keep warfighters combat ready

Tech. Sgt. Carl Norman
AFMC Public Affairs

Air Force Materiel Command's battle staff has been up and running since an hour after the Sept. 11, 2001, attacks, and today's war on terrorism and war with Iraq keep it humming.

As the Air Force's chief problem solver when it comes to getting parts, supplies and munitions to the right place at the right time, anywhere around the world, AFMC's battle staff members face global challenges every day, according to Mr. Mike Self, AFMC battle staff deputy director.

Serving as the command's focal point for contingency communications with higher headquarters, other Air Force major commands and AFMC units — battle staff members are the go-to people when problem areas need a little extra attention, according to Mr. Self.

Deployment nerve center

They not only focus on being a clearing-house for solving problems, but also act as the nerve center for deploying AFMC unit type codes, more commonly known as UTCs, and serve as the focal point for gathering and disseminating information on what the command is doing to support the warfighter. Unit type codes are what deployment officials use to determine what collections of people and equipment are needed for any given situation.

According to Mr. Self, "We work with the customer and the center both to solve problems."

Senior Master Sgt. Susanne Reitzel, an individual mobilization augmentee from Eglin Air Force Base, Fla., currently assigned to the AFMC Logistics Readiness Center, discusses battlefield readiness the night before Operation Iraqi Freedom gets underway with Senior Master Sgt. Edward Benton, an Air Force Reservist assigned to the 445th Airlift Wing at Wright-Patterson AFB, Ohio, now serving at the readiness center. (Photo by 2nd Lt. Gailyn Whitman, AFMC Public Affairs.)

"If one of our centers received requests for parts from more than one theater of operations, and there weren't enough parts to meet those requests, the battle staff here would be consulted," he said. "We'd move that information up the chain to the Pentagon and also work with other agencies to get a fix as quickly as possible to keep our warfighters combat ready."

AFMC on the go

But before command people hit the battlefield, they must go through the deployment process. As their second tasking, battle staff members monitor the command's 7,000 deployable UTCs to make sure everyone is trained and the equipment is ready to go.

"Currently 20,000 of the command's 23,000 blue suiters are assigned against these UTCs, making them deployable for any contingency," Mr. Self said.

While battle staff members make sure AFMC troops getting their "go" orders have what they need, they're also watching other Air Force aircraft and troop deployments to gather information on what the command is doing, or what they can do, to make America's warfighter's job easier and more efficient.

"We keep command leaders up-to-date on world situations, what contingencies AFMC units and other Air Force major commands are supporting, world hot spots and problem areas," he said.

Solving problems

"We look at problem areas — like engine shortages for example," Mr. Self said. "Are they due to a shortage of parts or are the parts themselves defective or being diminished due to a harsh environment like the sand and grit caused during Desert Storm? Once we find the cause, we can provide a solution."

Additionally, Mr. Self said battle staff members review combat-mission-needs statements submitted by field units and other major commands. These identify equipment, munitions or other technology theater commanders could use to be more effective.

But rather than waiting for the warfighter to tell them what they need, AFMC officials are trying to look more into their crystal ball and predict warfighters' needs before they ask by using a newly developed AFMC initiative — Predictive Support Awareness, according to Maj. Gen. John Barry, AFMC plans and programs director.

Predicting warfighter needs

"Predictive Support Awareness is simply a way to improve the situational awareness of our senior leaders regarding current and future support provided to the warfighter," Gen. Barry said. "It's a perfect complement to Air Force Chief of Staff Gen. John Jumper's Predictive Battlespace Awareness initiative, which is an operational versus support focus. By linking sustainment more closely with operations, PSA can provide a force-multiplier that allows for a more adaptive, innovative, responsive and effects-based interaction with the operational community."

Regardless of the situation, AFMC's battle staff members stand ready to do what it takes to keep America's warfighters on the cutting edge. And that's the bottom line, according to Lt. Col. Craig Colgate, battle staff director.

"We can contact people 24-7 and get a hold of the right people to solve the problem. We're doing what we can to make sure our warfighters have what they need, when they need it," he said.

AFMC bomb used for first time in Iraq war

A "smarter" bomb, born at Hill Air Force Base, Utah, a joint effort between Raytheon and the Ogden Air Logistics Center, was used for the first time in the early stages of Operation Iraqi Freedom.

The EGBU-27, or Advanced Paveway Three "next-generation" weapon, is an enhanced version of the laser guided "Legacy" model, GBU-27 smart bomb.

An ongoing operation

Air-to-surface munitions directorate experts at Hill played a major role in getting this precision weapon into the hands of the warfighters taking part in Iraqi Freedom, according to Mr. Aksel Aydoner, munitions directorate deputy director, who said this is an ongoing operation.

"We're here to fulfill the needs of the warfighters," he said. "We manage the logistics arm of the weapon system, procure the system, maintain the reliability and sustain its life."

Besides being instrumental in its development, munitions directorate experts are responsible for supplying spare parts, fuses and warheads for the EGBU-27, he said. Maintenance on the EGBU's guidance system and airfoils are also done at Hill.

Testing of the EGBU-27's dual-launch capability was completed just hours before the first strikes on Iraq.

The F-117 Nighthawk carried the EGBU-27, which can be delivered from the F-15 or F-16. Its payload is a proven 2,000-pound "bunker buster" warhead, used in Operations Desert Storm and Enduring Freedom to destroy bunkers and penetrate caves.

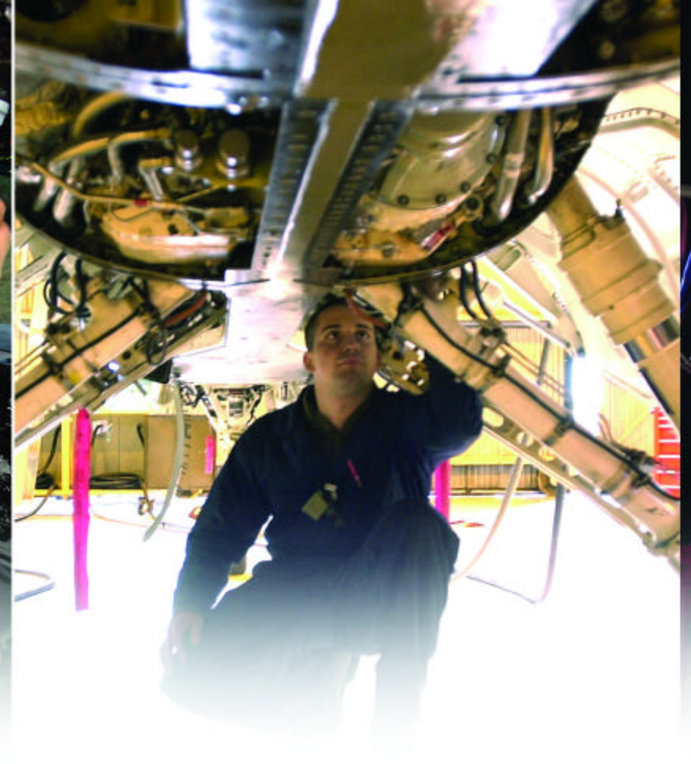
A new guidance feature

The similarities stop there, said Mr. Jim Ogan, Paveway Three program manager. The new bomb's laser-guidance system works in conjunction with a Global-Positioning-Satellite guidance system. Laser guidance relies on the target to be "painted" by a laser, either by a special operator on the ground, or by the pilot of the aircraft, he said. The smart bomb locks onto this laser and adjusts its flight to hit the target.

Global Positioning System technology enables the bomb to follow programmed coordinates to its target or remember the laser target position if the laser is turned off or interrupted in mid-flight, Mr. Ogan said. Laser guidance is more precise than GPS guidance; so the bomb has the ability to "ignore" GPS guidance if it is possible to laser designate the target.

The joining of laser and GPS technology allows more flexibility than its predecessor, providing the warfighters an all-weather, precision-strike weapon that can be used wherever, whenever by three versatile aircraft.

— Airman 1st Class Micah Garbarino, Ogden ALC Public Affairs



Left to right: An airman scans a fence during a perimeter security check at a forward deployed location. (U. S. Air Force photo by Staff Sgt. Matthew.) A C-17 Globemaster III pilot does a last check before taking off on a flight to northern Iraq. (Air Force photo.)

Left to right: An airman inspects the aft engine bay of an F-16 Falcon during routine maintenance. (Photo by Airman First Class Issac Freeman.) An Air Force Research Laboratory Propulsion Directorate engineer prepares an engine for evaluation. (Photo by Mr. Bill McCuddy)

Individuals key to AFMC's transformation success

Gen. Lester Lyles
AFMC Commander

Recently, I discussed with you my expectations for Air Force Materiel Command's transformation: to **develop an expeditionary mindset; become more innovative, adaptive and responsive; operate more effectively and efficiently**; and **be easier to do business with**. These expectations enable the Command's vision to provide military capabilities through superior acquisition and sustainment for Defense Department warfighters and their allies — now and in the future.

We now have more than 200 initiatives across the command to meet these expectations, and ***I could not be more proud of your efforts to improve our support to the warfighter!***

Major efforts such as **Depot Maintenance Reengineering Transformation**, the **Spares Campaign, Predictive Support Awareness**, **Agile Acquisition, Test and Evaluation Transformation, the Air Force Research Laboratory's capability integration efforts** and our scientist and engineer recruiting and retention initiatives, to name a few, are leading our journey.

Reinvesting our resources

Divestiture of nonessential efforts has proven to be a great way to reinvest resources to provide direct payback to the warfighter. Since August, almost 300 divestiture candidates have been submitted, resulting in eliminating, improving or resolving misunderstandings for each candidate. The Secretary of the Air Force and the Chief of Staff are our champions for these divestiture efforts, which have eliminated almost 60,000 hours of nonessential work to date.

As these initiatives continue, we are working with the Assistant Secretary of the Air Force for Acquisition, Dr. Marvin Sambur, and his team to streamline our acquisition processes.

Until recently, we focused on individual weapon system programs through the Integrated Weapons System Management philosophy. This approach proved to be very successful as a fundamental strategy to improve specific, or vertical, program life cycle management and accountability, but the increasing demands for interoperability and commonality demand a new way of doing business.

Shifting the focus

In order to meet those demands and promote horizontal integration, we developed the product enterprise concept. This approach provides integrated solutions by shifting our focus away from platform-centric thinking and toward capabilities- and effects-based thinking. To focus attention on these enterprises, our product center commanders were assigned as enterprise leaders for each product enterprise established: command and control, aeronautics, armament, and space and ballistic missiles.

This approach provided an ideal foundation for Capabilities-Based Life Cycle Management — a new direction for AFMC and the Assistant Secretary of the Air Force for Acquisition that will provide a set of fully supportable, integrated solutions capable of meeting the needs required by the warfighter.

Our first step in this new direction is the Agile Acquisition Concept of Operations I recently signed with Dr. Sambur, which formalizes our partnership with the Assistant Secretary of the Air Force for Acquisition.

It clearly delineates the Assistant Secretary of the Air Force for Acquisition's role as the lead for acquisition policy and processes and AFMC's vital role as the supporting organization providing people, resources, tools and expertise. We are now working together with Dr. Sambur and his team to reengineer processes and implement this concept of operations in the most effective and efficient manner.

Our joint goal remains unchanged: to meet the warfighter's needs!

This concept of operations and our other transformation initiatives are enabling us to continue providing world-class support in an ever-changing environment. Transformation in AFMC is not just a matter of doing things better or faster or cheaper. It is the evolution of our command to grow with the Air Force and take the necessary steps to ensure we continue to meet our warfighters' needs.

Making the future bright

I am very excited about our future! We are well on our way in this transformation journey and there are a multitude of opportunities to progress even farther. We will meet future demands by reengineering our processes and continuing to fulfill our responsibilities to train, organize and equip an outstanding team of research and development, acquisition, sustainment, and test and evaluation professionals.

Our mission is complicated, yet no one in the world does it better! I hear this often from leaders across the Air Force and the warfighting commands. We have been in operation for more than 50 years in one form or another, with processes growing to meet changing Air Force requirements. Your part in this journey is key to our success as we continue to reengineer our processes and transform AFMC to enhance our support to the warfighter

AFMC: Supporting the warfighter

Photo montage by Ms. Libby VanHook, AFMC Public Affairs

A Block 30 F-16 from the 416th Flight Test Squadron at Edward AFB, Calif., drops a Joint Direct Attack Munition during testing in January. (Photo by Mr. Tom Reynolds, AFFTC)

AFMC demonstrates rapid response capability for OIF

When F-16s flying missions in Operation Iraqi Freedom began having intermittent problems delivering their munitions, commanders called Air Force Materiel Command for a solution and had it a mere 30 hours later.

At 8:30 a.m., March 21, experts from the Ogden Air Logistics Center F-16 System Program Office and Maintenance Directorate Software Division at Hill Air Force Base, Utah, received the call reporting that software problems were preventing pilots from dropping their bombs.

"Too many F-16s were coming back with bombs still on the wing," said Mr. Karl Rogers, F-16 SPO avionics branch chief. "They needed a new operational flight program, and we immediately recognized the seriousness of the problem and went right to work to get the fix out."

Onboard affected F-16s, one computer system was not relaying its messages properly in order to release the JDAMs, he said. JDAMs' are precision-guided munitions accurate even under adverse weather conditions, making them valuable to operation planners and commanders.

Some four hours after the initial call came in, software engineers and technicians at Hill completed the design and coding for a software solution and loaded it into laboratory test stands to simulate JDAM drops.

Meanwhile, at 9:30 a.m., officials at the Air Force Flight Test Center at Edwards AFB, Calif., received a call letting them know about the problem and that Ogden ALC was working on a solution, which would need to be tested.

"Ogden ALC got the call right before we did and began working with the software," said Lt. Col. Evan Thomas, 416th Flight Test Squadron operations director. "The flight crew prepped an F-16 test aircraft and had it ready to fly as soon as the new software became available."

By 12:30 p.m., Ogden ALC engineers had the new software and began ground testing the program with simulated bomb releases using an F-16 from the Tucson, Ariz., Air National Guard test center, flown to Hill specifically for the tests.

Simultaneously, the 416th FLTS at Edwards loaded the new software, which had been emailed to them, onto their test aircraft.

"It was pretty impressive to see the guys on the front end of the aircraft still trying to load the software, while the weapons folks had already hung up their equipment and were completing the station check before loading the JDAMs," Col. Thomas said.

By 5 p.m., the software and bombs were loaded, and the aircraft took off for a test drop over China Lake Naval Weapons Station, Calif., test range.

The range had been scheduled to shut down at 3:30 p.m. that afternoon, but when Edwards test experts called to tell the range operators about the problem, their radar and camera operators, test conductors, communications and security specialists, airspace surveillance and target-support personnel put their Friday night plans on hold to have the range ready for the test, said Mr. Steve Mendenhall, head of the test management branch.

"We told people we were conducting a real-world test that was directly supporting the troops in Iraq, and that word went out over the Range Net," he said. "In 15 minutes, the entire range had pulled together their crews. Their dedication was impressive."

The Edwards and China Lake team then successfully dropped two JDAMs over the range using the new software, Mr. Mendenhall said.

Back at Hill, the software engineers continued to work well into the night, and after 40 simulated releases, were satisfied the software would work. The next morning, the Arizona test F-16 was flown from Hill to Edwards where the 416th FLTS would oversee the final testing phase.

After four more successful JDAM drops, and a complete review of the program by the Ogden ALC's F-16 SPO and the F-16 SPO at Wright-Patterson AFB, Ohio, the new software was sent to Air Combat Command officials for final release, Mr. Rogers said.

Air Combat Command requirements directorate officials approved the new software, and Hill engineers sent it via secure email to the operators in theater. Within 30 hours of the initial request, aircraft maintainers at forward bases were able to load the software and return the F-16s to the fight — a feat that normally would have taken weeks to accomplish," Mr. Rogers said.

"Multiple test activities were being accomplished simultaneously," said Mr. Tom Pugh, Block 30-flight test program manager at Hill. "The Edwards team was an important part of the test effort. We had tremendous support from our own organizations. This just goes to show how we are all on the same team, working toward a common goal — supporting the warfighter."

— A1C Wes Auldridge, AFFTC/PA, Ms. Kari Tilton, OC-ALC/PA and Mr. Cliff Lawson, China Lake Naval Weapons Station contributed to this report.

AFMC: building upon a centennial legacy

Photo montage by Mr. Wm. Barry Caldwell, Wright-Patterson AFB, Ohio, Multimedia Center.

U.S. Air Force photo by Master Sgt. Terry Blevins

When civilians 'go to war'

As Bob Dylan once crooned, "the times are a-changin." And one way they're changing in the Air Force Materiel Command is that an increasing number of civilians are coming forward and volunteering to deploy to foreign lands.

Though it's still a fairly uncommon practice, there are currently eight AFMC civilians who have answered that call to duty, according to officials in the AFMC Readiness Office. They include engineers, logistics readiness personnel and an aero-maintenance craftsman.

A case study

One of those civilians departed for the Persian Gulf early in March to serve as an aircraft battle-damage-repair engineer.

"Steve," (last name is withheld for security reasons) is an aerospace structural engineer assigned to the engineering directorate at Warner Robins Air Logistics Center, Robins Air Force Base, Ga. He's one of six civilians trained in aircraft battle-damage-repair who volunteered to make deploying a condition of their employment, said Ms. Barbara Denham, AFMC aircraft battle-damage-repair engineer engineering functional manager.

AFMC is the only source of aircraft battle-damage-repair engineers for the Air Force. Ms. Denham said, "engineers are a prime commodity given the command is facing a shortage overall. So it made sense to deploy civilian employees who volunteered to do so.

"When we deploy people we look to the active-duty people first, then to our individual mobilization augmentees, then, if we still need people, we look to our civilian employees," she said.

Ms. Denham said many Air Force civilian employees have deployed before, but Steve is the first to deploy as an aircraft battle damage repair engineer.

At his deployed location, Steve will provide combatant commanders the capability to do temporary and permanent aircraft repairs, according to Maj. William Stahl, AFMC combat logistics support squadron functional manager.

"If a deployed aircraft is damaged and maintainers on the ground can't repair it according to the established technical order, the engineer will design a repair so the aircraft can continue flying," Maj. Stahl said. "After the repair is made, he'll determine if the aircraft is safe to fly and issue any necessary flight restrictions. Basically he's there to get that aircraft back in the air to fight again."

Typically, according to Maj. Stahl, aircraft battle-damage-repair engineers deploy with a team from a combat logistics support squadron, which, coupled with supply and transportation support, augment Air Force units in combat. AFMC combat logistics and damage repair rapid-area-distribution teams are composed of people in selected maintenance, supply, transportation and logistics Air Force specialties.

Teams are trained in aircraft battle damage repair as well as field-level, heavy and depot-level maintenance. The teams are trained to set up bare-base supply systems and freight-packaging operations, and meet what officials call the "dynamic mission requirements" of all major commands, regardless of the environment.

Traveling the world

"These people travel all over the globe, interact with people from different countries, enhance their skills, are challenged every day to improve Air Force operations, and most importantly, provide our customers with the best product available," Maj. Stahl said.

Steve entered federal civil service with the Air Force 16 years ago and has been at Robins the entire time, according to his supervisor, Mr. Bill Schweinbert, engineering directorate structures branch chief. He said Steve's deployment reflects the commitment all civilian employees have to the Air Force mission.

"We're all committed to the mission and will do whatever it takes to support the warfighter," he said.

Ms. Denham said it's not clear when Steve will return home, as is the case with most people supporting Operation Iraqi Freedom.

— Tech Sgt. Carl Norman, AFMC Public Affairs

AFMC Leadership Triad

Gen. Lester Lyles
AFMC Commander

Lt. Gen. Charles Coolidge
AFMC ViceCommander

Dr. J. Daniel Stewart
AFMC Executive Director

Base listings are followed in bold type by the primary Air Force Materiel Command organization, the host unit. Other AFMC organizations with headquarters elsewhere, but which have people assigned to the base, are listed following the host unit.

Figures in the tables are for assigned personnel, a term for the actual number of people on the job. This is not the same as manpower authorizations, a term for the total number of positions with approved funding. Figures are current as of March 1, 2003.

BASE	OFFICER	ENLISTED	CIVILIAN	TOTAL
ARNOLD AFB, Tenn.				
Arnold Engineering Development Center	66	46	177	289
Contractors				2,237
BROOKS City-Base, Texas				
311th Human Systems Wing	692	898	1,312	2,902
Aeronautical Systems Center	333	559	634	1,526
Air Force Research Laboratory	52	46	96	194
Warner Robins Air Logistics Center			41	41
EDWARDS AFB, Calif.				
Air Force Flight Test Center	635	2,813	2,917	6,365
Warner Robins Air Logistics Center	3	7		10
Air Force Research Laboratory	26	23	163	212
Aeronautical Systems Center	15	32		47
EGLIN AFB, Fla.				
Air Armament Center	782	3,800	2,726	7,308
Air Force Research Laboratory	67	12	283	362
Aeronautical Systems Center	5		3	8
Electronic Systems Center	4	1		5
HQ AFMC-FOA	7	5		12
HANSCOM AFB, Mass.				
Electronic Systems Center	888	575	1,107	2,570
Air Force Research Laboratory	126	48	262	436
Air Armament Center	4	1	2	7
HILL AFB, Utah				
Ogden Air Logistics Center	502	1,896	10,296	12,694
Air Force Research Laboratory	4		10	14
Electronic Systems Center	3	2	70	75
Air Armament Center			1	1
KIRTLAND AFB, N.M.				
377th Air Base Wing	154	969	663	1,786
Air Force Research Laboratory	201	73	568	842
Aeronautical Systems Center	49	6	34	89
Air Armament Center	35	130	46	211
Air Force Flight Test Center	1	45	1	47
Electronic Systems Center	1			1
HQ AFMC-FOA	10		17	27
Ogden Air Logistics Center			2	

Gender	*Male*	*Female*
Officers	*79.7%*	*20.3%*
Enlisted	*77.9%*	*22.1%*
Civilian	*66.7%*	*33.3%*

Average age	
Officers	*34*
Enlisted	*29*
Civilian	*47*

Education	
High school+	*36%*
Bachelor's	*32%*
Master'ss	*12%*
Doctorate	*13%*
Other	*.05%*

Demographics compiled by Tech. Sgt. Orren Bradley and Ms. Karen Muterspaw, AFMC Directorate of Personnel

	OFFICER	ENLISTED	CIVILIAN	TOTAL
ROBINS AFB, Ga.				
Warner Robins Air Logistics Center	439	1,933	10,967	13,339
Air Force Research Laboratory	2	2	5	9
Air Force Flight Test Center	4			4
HQ AFMC-FOA			5	5
TINKER AFB, Okla.				
Oklahoma City Air Logistics Center	385	1,222	12,847	14,454
Aeronautical Systems Center	2		1	3
Air Force Flight Test Center		8	5	13
Air Force Research Laboratory	1	2	5	8
Electronic Systems Center	1	19	481	501
HQ AFMC-FOA			1	1
WRIGHT-PATTERSON AFB, Ohio				
Aeronautical System Center	1,405	1,895	4,558	7,858
Air Force Flight Test Center	1	1	34	36
Air Force Museum			93	93
Air Force Research Laboratory	404	38	1,.803	2,245
Air Force Security Assistance Center	22	1	321	344
Air Armament Center			17	17
Electronic Systems Center	22	22	458	506
HQ AFMC	313	165	961	1,439
Warner Robins Air Logistics Center	3	13	18	34
Oklahoma City Air Logistics Center			5	5
Ogden Air Logistics Center			1	1
HQ AFMC-FOA	52	113	214	379
Personnel assigned to non-AFMC bases and the organizations they're from:				
AFFTC, Edwards AFB, Calif.	12	25	26	63
AFRL	106	27	969	1,102
AFSAC			6	6
AAC, Eglin AFB, Fla.	74	161	241	476
AMARC, Davis Monthan AFB, Ariz.	7		480	487
AEDC, Arnold AFB, Tenn.			18	18
ASC, Wright-Patterson AFB, Ohio	91	93	31	215
ESC, Hanscom AFB, Ma.	329	1,150	1,082	2,561
HQ AFMC	13		30	43
HQ AFMC, FOA			5	5
OO-ALC, Hill AFB, Utah	10	119	235	364
OC-ALC, Tinker AFB, Okla.	1	1	23	25
WR-ALC, Robins AFB, Ga.	8	35	180	223

AFMC STRENGTH BY BASE

BASE	OFFICER	ENLISTED	CIVILIAN	TOTAL
ARNOLD	66	46	177	289
BROOKS	1,077	1,503	2,083	4,663
EDWARDS	679	2,875	3,080	6,634
EGLIN	865	3,818	3,012	7,695
HANSCOM	1,018	624	1,371	3,013
HILL	509	1,898	10,377	12,784
KIRTLAND	451	1,223	1,331	3,005
ROBINS	445	1,935	10,977	13,357
TINKER	389	1,251	13,340	14,980
WRIGHT PATT	2,222	2,248	8,483	12,953
OTHER	651	1,161	3,326	5,138
TOTAL	**8,372**	**18,582**	**57,557**	**84,511**

2004 Budget

DOD	$379.6 billion
Air Force	$116 billion
AFMC	$44.2 billion

AFMC's budget includes $14.4 billion from Air Force Working Capital Fund and provides services paid for by operational commands.

Sources: Ms. Sharon Kay, AFMC FMPA and the President's Budget

Deployed AFMC people support war on terror

In support of the war on terrorism, many members of the Air Force Materiel Command family will continue to deploy, as they have for the past year, to far-reaching locations.

During the last 18 months, 6,254 AFMC personnel, including civilians and military, Guard and Reserve, deployed.

During deployments AFMC personnel worked in every job specialty represented by the AFMC family. These specialities include, but are not limited to: engineers; pilots; communications specialists; and bomb builders.

As of March 2003, AFMC deployed 2,370 personnel to various locations in support of Operations Enduring Freedom and Iraqi Freedom. Forty people are working at non-AFMC bases in support of the war effort.

AFMC keeps its Air National Guard units and Reserve members busy, with 211 deployed to maintain communication and personnel requirements across the command.

Air Force Materiel Command

The Air Force Materiel Command Headquarters, Wright-Patterson Air Force Base, Ohio, is home to the senior leadership and staff responsible for leading the most diverse major command in the Air Force. More than 1,400 military and civilian members of Headquarters AFMC spearhead the creation, integration and support of cutting-edge weapon systems across AFMC's 10 bases and among several thousand contract companies worldwide.

Headquarters Air Force Materiel Command at Wright-Patterson AFB, Ohio. AFMC plans, develops, fields and sustains integrated air and space capabilities for dominate warfighting effects — today and tomorrow. (Photo by 2nd Lt. Gailyn Whitman)

Air Force Materiel Command people transform air and space technology investments into warfighting capabilities. An annual strategic plan channels efforts into a synergistic force that produces top-notch, cost-conscious combat capability, resulting in the strongest air and space force the world has ever seen.

Headquarters AFMC's 23 directorates are structured and manned according to the depth and breadth of their respective missions. Those directorates are: Operations; Requirements; Engineering; Contracting; Civil Engineer; Logistics; Comptroller; Science and Technology; Plans and Programs; Acquisition Center of Excellence; Transformation; Information Technology; Intelligence; Personnel; Command Chaplain; Command History Office; Staff Judge Advocate; Command Security Forces; Safety; Command Surgeon; Services; Public Affairs; and Inspector General.

AFMC's current transformation efforts will lead to more advances in resource management and efficiency, such as the rapid development of weapon systems in support of America's war against terrorism. AFMC's transformation includes making improvements wherever possible and empowering employees to identify opportunities in their own operations to make the final product higher in quality and lower in cost.

Responsibilities

AFMC manages an annual budget of nearly $44.2 billion, which is more than half the operating budget of the United States Air Force. From its 10 geographically-dispersed bases, AFMC also supports other U.S. and allied military forces, and handles major aerospace responsibilities for the Defense Department.

An active participant in military operations and exercises, the AFMC headquarters staff deployed nearly 10 percent of its military population last year. AFMC professionals fulfilled leadership and support duties in Defense Department operations, most notably Operations Enduring Freedom, Noble Eagle, Northern Watch, Southern Watch and Iraqi Freedom.

Assigned to AFMC, the United States Air Force Band of Flight, located at Wright-Patterson, provides quality music and entertainment for a wide variety of official military, recruiting, and community-relations events, representing the Air Force to the Midwest. The band travels more than 100,000 miles and presents more than 450 performances every year.

Budget

$44.2 billion

Contact information

https://www.afmc-mil.wpafb.af.mil/ or 937-257-1111 or (DSN) 787-1111

Top: The Air Force Materiel Command's Operations Center serves as a focal point for gathering and disseminating information on what the command is doing to support the warfighter. The command center has been up and running since an hour after the Sept. 11, 2001 attacks on the World Trade Center. Left: Tech. Sgt. Terry Hobbs, AFMC NCOIC HQ/AFMC Commanders Support Staff, performs administrative duties. Right: Lt. Col. Walter Cyktich, depot maintenance workloading division chief, trains his replacement, Maj. Jeffrey Wiese. The job involves taking customer requirement needs and determining resources to complete the job. (Photos by 2nd Lt. Gailyn Whitman, AFMC Public Affairs)

Ogden Air Logistics Center

The primary goal of Ogden Air Logistics Center, Hill Air Force Base, Utah, is to support the warfighter through a multiplicity of products. More than 500 F-16s are modified and maintained here yearly. In the 2001-2002 time period, the F-16 production team reduced turn-around time to combat units by five weeks. In support of Operations Enduring Freedom, Northern and Southern Watch and Iraqi Freedom, millions of pounds of munitions have been shipped; electronics, avionics, radar, navigational and laser systems for nine different aircraft repaired, overhauled or modified; one-stop flight training system program management is supplied for more than 20 aircraft; and maintain Peacekeeper and Minuteman ICBMs.

Top: Participants of "Bright Star" put up a communications antenna to receive radio transmissions during the exercise. (Photo by Senior Airman Christine Sczepanski) Bottom: A Hill fireman helps a local student as part of the fire department's mentoring program. The engine companies rotate twice a week to help students with reading and homework.

Ogden Air Logistics Center is the largest employer in Utah, with more than 23,000 military, Defense Department civilians and contractors supporting an estimated 6.5 million production hours.

Responsibilities

The center has worldwide logistics management and maintenance support responsibilities for some of the Air Force's most sophisticated weapon systems, provides program management and maintenance for the F-16 Fighting Falcon, and approximately 45 A-10 Thunderbolt aircraft receive analytic condition inspections, paint removal and structural upgrades yearly. In addition, the center performs maintenance of the C-130 Hercules for the Air Force, Navy, Marines and foreign military, and is responsible for the program management of the KC-135 Stratotanker workload, partnered with the Boeing Aerospace Support Center in San Antonio, Texas.

Ogden has responsibilities for Air Force-wide item management, depot-level overhaul and repair for all types of landing gear, wheels, brakes and tires, and is the logistics manager for all conventional air munitions, solid propellants and explosive devices used throughout the Air Force. More than 62,500 items are produced annually, including electronic and instrument items, avionics items and generator, rewind and component items. The center has a premier capacity for software development, test, maintenance and consultation.

Ogden provides photonics imaging and reconnaissance equipment; aircraft and missile crew training devices; avionics; hydraulic, pneudralics and radar components; instruments; gas turbine engines; power equipment systems; special purpose vehicles; shelters; and software engineering, development and support.

The 75th Air Base Wing provides responsive installation and support services for Hill and the 2,500-square-mile Utah Test and Training Range.

Weapon systems

F-16, C-130, A-10, B-2, KC-135, T-38 and 37 other mature and proven weapon systems, including the Minuteman and Peacekeeper ICBM. The center is the leading provider of rocket motors, small missiles, air munitions and guided bombs and serves as the ammunition control point for the Air Force.

Area

Hill covers more than 10 square miles, has 228 miles of roads, 28 miles of railroads, 1479 buildings and 11 aircraft hangars.

Tenants

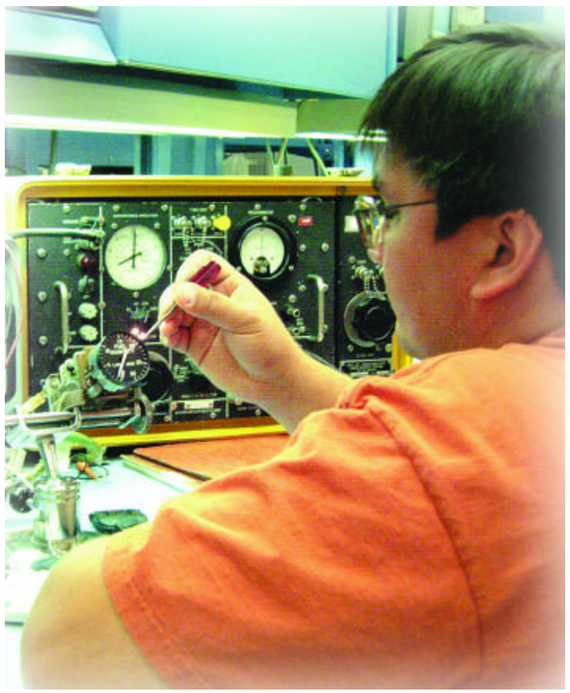
Two fighter wings and 37 other associate units are located at Hill. The 388th and 419th Fighter Wings and the 75th Air Base Wing directly support nine of the 10 Air Expeditionary Forces.

Budget

$7 billion

Contact information

http://www.hill.af.mil or 801-777-1110 or (DSN)777-1110



Top: Senior Airman Kirbie Delmo, an aircraft metal technologies specialist at Hill AFB, Utah, adjusts a radial drill press to align holes on manufacturing plates for an F-16 Fighting Falcon flap. (U.S. Air Force photo by Senior Airman Nakita Carlisle) Left: Mr. John Kolp, electronics division, tests a fuel quality meter. Right: Mr. Ralph Ramos, commodities division, uses an electric arc flame spray to coat a C-5 gudgeon pin with stainless steel wire coating material.

Oklahoma City Air Logistics Center

The Oklahoma City Air Logistics Center, Tinker Air Force Base, Okla., continually supports the war on terrorism and homeland defense by keeping a variety of aircraft repaired and maintained, including bombers, refuelers and reconnaissance aircraft. Many crucial airborne accessories are also maintained at the center, including life-support systems such as oxygen equipment and ejection seats. The center reduced its C/KC-135 aircraft on station by 44 percent in 2002 and reduced the number of aircraft in depot status from 176 to less than 100, and also produced 515 war-ready engines (45 more than the budgeted target) and more than 76,000 commodities parts which enabled air refueling sorties, cargo transport and ordnance delivery critical to the success of Operations Enduring Freedom, Northern Watch, Southern Watch, Noble Eagle and Iraqi Freedom. It was also the first AFMC base to deploy its Aircraft Battle Damage Repair engineers in support of the Operation Enduring Freedom.

Top: Ms. Sherri Whittington applies water-proofing sealant to the veins of an F100 second stage fan case in the F100 Inlet Fan Lean Cell. (Photo by Ms. Margo Wright, OC-ALC) Bottom: Technicians work on the autoclave, which works like a giant pressure cooker to strengthen aircraft parts through computer-controlled heat, and is crucial to the aircraft repair process at Tinker.

Oklahoma City Air Logistics Center is the Air Force's largest ALC. The center provides specialized logistics support, management, maintenance and distribution for weapons systems worldwide valued at more than $2 billion.

Responsibilities

Logistics support for aircraft such as the E-3 AWACS, C/KC-135, B-52, B-2 and B-1 is provided from cradle to grave. The center manages and maintains a $31.2-billion inventory of more than 22,000 engines, 1,800 missiles and 24,800 accessories which support thousands of aircraft, including the VC-25, known as Air Force One.

It is responsible for depot-level repairs, modifications, overhaul and functional check flights of the B-1, B-52, C/KC-135, E-3 and the Navy's E-6 aircraft. Engines managed include the F100, F101, F108, F110, F118, TF30, TF33, TF34, TF39, TF41, T400,T700, J33, J57, J69, J75, J79, J85, J56, T64 aircraft engines and the F107 and F112 missile engines.

The center's airborne accessories workload includes hydraulics, oxygen equipment, fuel accessories, bearings and life support equipment among other items.

The 72nd Air Base Wing provides responsive installation and support services for Tinker.

Weapons systems

B-1B, B-2, KC-10, E-3, E-6, B-52, C/KC-135 aircraft. The center provides contractor logistics support for commercial-derivative aircraft including airlift, tanker and presidential aircraft. Missile systems managed by the center include the air-launched cruise missile, conventional air-launched cruise missile, advanced cruise missiles, harpoon and bomber weapons integration equipment.

Area

5,033 acres

Tenants

552nd Air Control Wing, 507th Air Refueling Wing, 38th Engineering Installation Group, 3rd Combat Communications Group, Navy Strategic Communications Wing ONE, Defense Logistics Agency, and the Defense Information System Agency Defense Enterprise Computing Center — Oklahoma City.

Budget

$11.6 billion

Contact information

http://www.tinker.af.mil or 405-732-7321or (DSN) 884-1110

Top: Sheetmetal mechanics Mr. Fernando Esquivel, Mr. Mike Gomez and Mr. Jackie Smith, from left, put new skin on an upper left B-52 cowling. Left: Mr. Randy Huff, a constant speed drive mechanic, uses a water-based cleaner that is safer for him and the environment than previous cleaners. Right: Mr. Rex Cash, right, B-52 fuels engineer, and Mr. Dave Atkinson, B-52 fuel system work leader, scrape off peeling topcoat while inspecting the inside of a bomber's main wing fuel tank. (Photos by Ms. Margo Wright, OC-ALC)

Warner Robins Air Logistics Center

Assets managed and maintained by the Warner Robins Air Logistics Center at Robins Air Force Base, Ga., are critical to America's ability to wage war and to move people and equipment around the globe in its continuing efforts to stem the tide of terrorism.

Top: Team Eagle at Robins AFB, Ga., supports the F-15 fleet. Bottom: Mr. Darrell Harman, foreground, and Mr. Dewitt Williams work on a C-5 Pylon in the Warner Robins Air Logistics Center Maintenance Directorate's C-5 Production Branch. (Courtesy photos)

Warner Robins Air Logistics Center provides the Air Force combat-ready weapon systems, equipment, services and support personnel.

Responsibiliites

Robins provides maintenance, logistics, managment and engineering support for the F-15, C-5, C-141, C-130, all Air Force helicopters, logistics management for the C-17 Globemaster III, all Air Force missiles, vehicles, general purpose computers, aircraft avionics and electronic systems, and worldwide support for the U-2. The center supports fire-fighting equipment and vehicles and is the technology repair center for life-support equipment, instruments, airborne electronics and aircraft propellers.

Warner Robins Air Logistics Center manages more than 200,000 items, including aerospace communications and navigation equipment, airborne bomb and gun-directed systems, target acquisition systems and most Air Force airborne electronic warfare equipment. The center provides management support for the low-altitude navigational targeting infrared for night system, the joint tactical information distribution system and the worldwide military command and control system.

The center is also responsible for procurement, supply and maintenance functions for most Air Force bases along the East Coast, as well as the Atlantic Missile Test Range, New Foundland, Labrador, Greenland, Iceland, Bermuda, the Azores and all Air Force and Security Assistance Program activities in Europe, Africa and the Middle East.

The 78th Air Base Wing provides responsive installation and support services for Robins.

Weapon systems

F-15, C-141, C-130, C-5, U-2, C-17, utility aircraft, Air Force helicopters, including the MH-53 Pave Low III variants, HH-60 Pave Hawk, UH-1N Huey and Air Force missiles including sustainment support for tactical missiles and associated launchers as well as sub-scale aerial targets including AIM-7, AIM-9, AIM-120, AGM-88, FIM-92, BQM-34 and MQM-107. WR-ALC is also responsible for 73 Air Force weapon systems including gun systems and bomb rack and release system, and the Global Positioning user equipment and Joint Surveillance Target Attack Radar systems.

Area

8,723 acres

Tenants

Air Force Reserve Command Headquarters, 116th Air Control Wing Group, 5th Combat Communications Group, Defense Information System Agency. Geographically Separated Units: Det. 3, Air Force Petroleum Office, Ft. Belvoir, Va.; Det. 1, Air Force Metrology & Calibration, Heath, Ohio; U-2 Flight Test Det. 2, Palmdale, Calif.

Budget

$6.2 billion

Contact information

http://www.robins.af.mil or 912-926-1110 or (DSN) 468-1110

Top: Mr. Leland Blocker, a mechanic in the C-141 aircraft production branch, inspects a C-141 nose ring for cracks, holes and missing pieces. Left: Robins provides depot maintenance, logistics support, repair, modification and overhaul of the C-141 Starlifter. (Air Force Photo by Staff Sgt. Simons) Right: Mr. Danny Seals, foreground, and Mr. David Smith, flight test engineers with the Special Operation Forces Operational Flight Program Branch, work on the MC-130 E Combat Talon Crew Station software, which is later tested on special operations aircraft. (Except where otherwise noted, photos provided by WR-ALC Public Affairs)

Air Force Flight Test Center

Edwards Air Force Base, Calif., contributes directly to the warfighter through test and evaluation. The test forces at Edwards are dedicated to ensuring today's Air Force inventory of aircraft continues to respond effectively to any crisis. They guarantee bombers and fighters can successfully apply selective force against specific targets, and airlift aircraft can move forces and firepower anywhere in the world. From demonstrating the F-22 Raptor's look-down, shoot-down capability to deploying in support of Global Hawk's operational debut, the test forces at Edwards are pushing to deliver to the warfighter on-time, every time.

Top: The Space Shuttle Endeavor sits atop one of NASA's two specially-modified Boeing 747 shuttle carriers inside NASA Dryden at Edwards AFB, Calif. (Photo by Master Sgt. Anne Ward, AFFTC Public Affairs) Bottom: An officer with HMH-769 flies a personnel transport mission in a CH-3 Sea Stallion helicopter at Edwards. (Photo by Tech. Sgt. Christopher Ball)

The Air Force Flight Test Center is the Air Force Materiel Command's center of excellence for research, development, test and evaluation of aerospace systems. It operates the U.S. Air Force Test Pilot School and has considerable aerospace industry test activity, playing a role in virtually every aircraft to enter the Air Force inventory since the Second World War.

Within the past year, Edwards helped develop and field Global Hawk, upgraded the B-1's capability to launch three different types of munitions against three different targets, demonstrated the F/A-22's ability to launch guided missiles at supersonic speeds, transitioned test aircraft to support initial operational testing and flight tested Airborne Laser's handling characteristics, proving performance despite structural and operational changes.

Responsibilities

The Air Force Flight Test Center protects the Air Force's interests through aerospace power, and ensures airmen have proven equipment when flying their missions. When necessary, test forces deploy and operate developmental test aircraft and systems in support of combat missions.

The Air Force Flight Test Center operates the Edwards Flight Test Range, comprising 20,000 square miles of airspace, including three supersonic corridors and four aircraft spin areas, and has an array of ground test facilities. The Avionics Test and Integration Complex, including the Benefield Anechoic Facility, allows for complete testing of an avionics suite in a simulated flight environment. Major organizations are the 412th Test Wing and the 95th Air Base Wing, which provides installation and support services for the installation.

Weapon systems

B-1B, B-2, B-52H, C-12C, C-17A, NKC-135B/E, KC-135R, C-135C/E, CV-22B, F-15/A/B/C/D/E, N/F-16A/B/C/D, F/A-22A, YF-117A, A/T-38A/B/C, NT-39A/B, T-39A, T-3A, X-45A, RQ-4A, and Airborne Laser 747 test aircraft. The Global Hawk unmanned aerial vehicle and L-23 glider are tested at Edwards

Area

301,000 acres

Tenants

Air Force Research Laboratory Propulsion Directorate; Dryden Flight Research Center; 18th Space Surveillance Squadron; 31st Test and Evaluation Squadron; Air Force Operational Test and Evaluation Center, Detachment's 5 and 6; and Marine Aircraft Group 46, Detachment Bravo.

Budget

$742 million

Contact information

http://www.edwards.af.mil or 661-227-1110 or (DSN) 527-0111

Top: Testers at Edwards conduct egress training during test missions aboard the C-17 Globemaster III. (Photo by Airman 1st Class Matthew Dillier) Left: Mr. Tom Keightley, Edwards Fire Department Division V chief, evaluated the condition of a "victim" during a February exercise to test team Edwards ability to respond to a major accident. (Photo by Ms. Kristie Hogbin) Right: The U.S. Air Force Test Pilot School's Variable-stability, In-flight Simulation and Test Aircraft F-16 takes flight over Edwards. The VISTA is key to the school's flight testing of the Automatic Air Collision Avoidance System. (Courtesy photo)

Arnold Engineering Development Center

The Arnold Air Force Base, Tenn., contribution to the warfighter is the unparalleled ground testing conducted at Arnold Engineering Development Center for all Defense Department aerospace systems in use today by the warfighter. Aerospace systems used today in the war on terrorism were tested at AEDC, both in development and throughout each system's service life. The center is currently supporting the next generation of warfighters with the testing of weapons systems such as the F/A-22 Raptor Air Dominance Fighter and the F-35 Joint Strike Fighter, thereby ensuring our nation's air dominance.

Top: Arnold Engineering Development Center is providing critical aerodynamic and propulsion testing for the development of the F-35 Joint Strike Fighter. Bottom: Employees at AEDC lift the mirror for the FAR Infrared Submillimeter Telescope satellite into a chamber in preparation for testing. (Photos courtesy of AEDC Public Affairs)

Arnold Engineering Development Center, Arnold Air Force Base, Tenn., provides customers with the world's largest array of aerospace ground test and evaluation facilities and capabilities. The center also ensures AEDC ground test facilities, technologies and knowledge fully support today's and tomorrow's warfighters, and provides customers insight through partnership and excellence.

Responsibilities

AEDC is the Defense Department's largest aerospace ground test and evaluation complex. Center scientists and engineers perform tests, engineering analysis and technical evaluations for research, system development and operational programs for all the U.S. armed forces, other government agencies and commercial aerospace industry. AEDC has tested some component of virtually every high-performance aerospace system in the Defense Department inventory and most space vehicles.

The center is unique in that almost 2,350 of its approximately 2,700 personnel are civilian contractors. There are 102 military personnel assigned, 195 government civilians and 60 non-appropriated fund and base exchange employees.

Weapon systems

As a test and evaluation center, AEDC doesn't have a weapon system assigned. However, the center maintains a $7.5 billion infrastructure consisting of 58 aerospace test and simulation facilities, including wind tunnels, altitude jet and rocket test cells, ballistic ranges, arc heaters and space chambers. Twenty-seven of these facilities are unique in the United States and 14 are unique in the world. Every high-performance aircraft and missile in the Defense Department inventory has been tested here.

Area

39,081 acres, including the 6,000-foot airfield. Some of the area (outside the test complex) on Arnold is a Tennessee State Wildlife Management Area, home to a large variety of wildlife.

Tenants

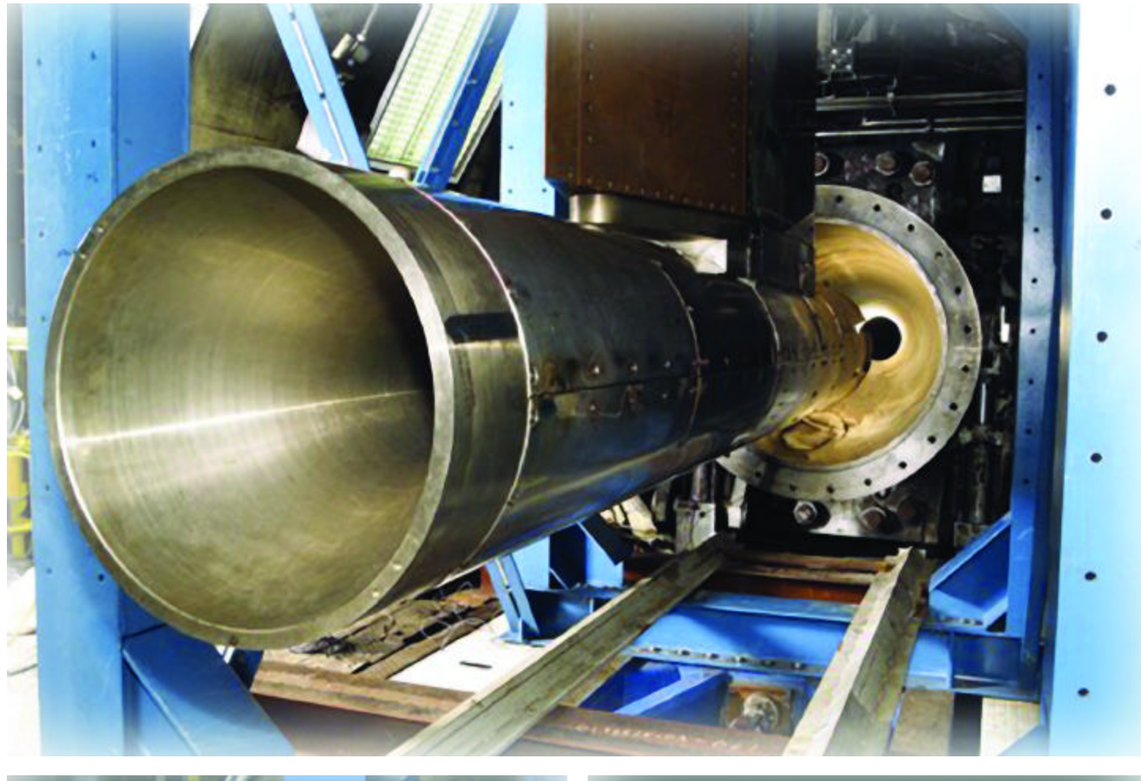
Air Force Office of Special Investigations, Air Force Audit Agency, Army and Air Force Exchange Service, the Defense Commissary Agency and the Document Automation & Production Service. Geographically separated unit: Hypervelocity Wind Tunnel 9, White Oak, Md.

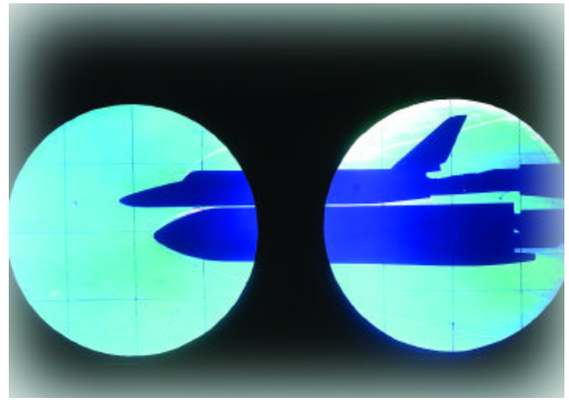
Budget

$331 million

Contact information

http://www.arnold.af.mil or 931-454-3000 or (DSN) 340-5011





Top: Tests conducted on this Dual Combustion Ramjet in AEDC's Aeropropulsion Test Unit marked the first time a fully integrated hypersonic cruise missile engine using conventional liquid hydrocarbon fuel was tested at critical take-over conditions. (Photo by Mr. Gary Barton and David Housch) Left: AEDC's 1st Lt. Timothy Budke, left, and outside machinist, Mr. Brad Besheres, examine the dual combustion Ramjet. Right: A two percent model of NASA's Space Shuttle Orbiter and external fuel tanks in Arnold Engineering Development Center's von Karman Gas Dynamic Facility wind tunnel A. This Schlieren photo illustrates the aerodynamic flow and shock waves acting on the vehicle. (All photos courtesy of AEDC Public Affairs)

Aeronautical Systems Center

From development to acquisition to delivery, the Aeronautical Systems Center at Wright-Patterson Air Force Base, Ohio, plays a role in nearly every aspect of Operations Enduring Freedom, Noble Eagle and Iraqi Freedom. Air Force bombers, fighters, airlifters, tankers and intelligence, surveillance and reconnaissance assets developed and sustained by ASC are in action every day. Members of the 74th Medical Group, 88th ABW Security Forces, and other ASC organizations have been deployed to various geographical locations in support of the war on terrorism. To guarantee agile logistics support and immediately infuse the newest technologies, more than 50 acquisition surges already have been implemented and more are planned.

Top: The F-16 mission training system allows pilots to train in high-fidelity flight scenarios, including a 350-degree visual system. The system was developed by Aeronautical System Center's Training System Product Group at Wright-Patterson AFB, Ohio. Bottom:The Air Force's eye in the sky, the Predator, uses cameras, infrared sensors and radar to monitor enemy troop movements. The Reconnaissance System Program Office at Wright-Patterson manages the development and acquisition of this system, and provides follow-up support to the Air Force units that operate them. (Air Force photos)

Aeronautical Systems Center, Wright-Patterson Air Force Base, Ohio, arms the U.S. warfighter with world-class weapon system, enabling combat aerospace forces to ensure global vigilance, reach and power.

Responsibilities

Aeronautical Systems Center rapidly develops, acquires, modernizes and sustains the world's best aerospace system through its acquisition work force and support units at Wright-Patterson; Brooks City-Base, Texas, and other locations around the country. ASC's major acquisition programs include fighter, bomber, transport, reconnaissance and trainer aircraft.

Priorities under ASC's acquisition management include achieving mission success through: emphasizing speed and innovation, rapidly transitioning technology into system and business processes, developing and retaining a high performance workforce, and forming strong partnerships with warfighters, industry, and the local community.

To meet forecasted needs of Defense Department well into the 21st century, ASC's Major Shared Resource Center is home to the eighth-largest super computer in the world. Using high-performance information technologies, the MSRC is able to tackle large-scale problems previously beyond the reach of current processing platforms.

The 88th Air Base Wing provides responsive installation and support services for Wright-Patterson.

Weapon systems

Current programs include the F/A-22 air dominance fighter, the C-17 inter- and intra-theater transport, the B-2 bomber and Predator and Global Hawk unmanned aerial vehicles. Recent additions are the Airborne Laser System Program Office, which directs design, development, integration and testing of the revolutionary Airborne Laser weapon system, and the Aeronautical Enterprise Program Office, which deals with aging platforms.

Area

8,357 acres

Tenants

ASC supports more than 125 organizations at various locations. At Wright-Patterson, these include Headquarters Air Force Materiel Command, Air Force Research Laboratory, Air Force Institute of Technology, 445th Airlift Wing, U.S. Air Force Museum, Air Force Security Assistance Center and National Air Intelligence Center.

Budget

$13 billion

Contact information

http://www.wpafb.af.mil or 937-257-1110 or (DSN)787-1110

Top: This Airborne Laser test aircraft is moving into receiver position preparing to connect with the KC-135 tanker above it in December 2002. Left: Private first class Thomas Reed, with Alpha Company of the 112th Engineer Battalion of the Ohio National Guard, checks an identification card at Wright-Patterson. He is one of nearly 150 soldiers who are augmenting force protection operations at Wright-Patterson. (Photo by Mr. Spencer Lane, WPAFB Public Affairs) Right: Personnel carry a litter as they participate in medical unit readiness training at a Wright-Patterson Prime BEEF site. The group worked together to transport the litter through an obstacle course and learned how to lift and lower the stretcher. (Courtesy photos)

311th Human Systems Wing

The 311th Human Systems Wing, Brooks City-Base, Texas, is the warfighter's choice for leading-edge human performance enhancement, protection, and global health support. The Wing is responsible for the acquisition and sustainment of life support, nuclear-biological-chemical rapid response, laboratory analysis, aeromedical equipment and medical information systems that directly support the warfighter, from basic training throughout their entire career.

A member of the Air Force Radiation Assessment Team at the Air Force Institute for Environment, Safety and Occupational Health Risk Analysis at Brooks City-Base, Texas, demonstrates radiation assessment capabilities in the base gym. (Courtesy photo)

The 311th Human Systems Wing, Brooks City-Base, Texas, is the U.S. Air Force's advocate for integrating and maintaining the human in systems and operations. Much of the work is considered transferable to commercial use and the wing actively seeks partnership opportunities with academia and parties interested in new research and technological discoveries. The 311th HSW is the human system branch of the Aeronautical System Center at Wright-Patterson Air Force Base, Ohio.

Responsibilities

The wing's mission is to improve combat power and efficiency in human performance protection and support through the many facets of aerospace medicine. The wing produces products that assess and manage health, safety and environmental risks for the U.S. Air Force and Defense Department, trains more than 6,000 aeromedical personnel annually and has handled more than 140 technical acquisition and sustainment programs.

In July 2002, the base was transferred to the Brooks Development Authority and became the Air Force demonstration project, directed by the U.S. Congress, to significantly reduce base operating costs, maintain the flexibility to meet current and future mission requirements, and enhance mission capabilities through the creation of public and private partnerships. Through the Brooks City-Base Project, a partnership between the Air Force and the City of San Antonio, the base will demonstrate ways to improve mission effectiveness while reducing the cost of providing quality installation support.

The 311th HSW elements include: the 311th Air Base Group, the Human Systems Program Office, the U.S. Air Force School of Aerospace Medicine, and the Air Force Institute for Environment, Safety and Occupational Health Risk Analysis.

Area

1,308 acres

Major tenant

The Development Center for Operational Medicine, the Air Force Medical Support Agency, a detachment of the Air Force Medical Operations Agency, the Air Force Research Laboratory Human Effectiveness Directorate, the Air Force Outreach Program Office, Air Intelligence Agency, Air Force Center for Environmental Excellence, the 68th Information Operations Squadron Naval Health Research Center Detachment, and the U.S. Army Medical Research Detachment of Walter Reed Army Institute of Research.

Budget

$413 million

Contact information

http://www.brooks.af.mil or 210-536-1110 or (DSN) 240-1110

Top: Capt. James Allen, director of Aerospace Physiology Training Programs at the U.S. Air Force School of Aerospace Medicine, and Ms. Lisa Sandberg, a San Antonio Express-News writer, prepare for a rapid decompression in an altitude chamber at Brooks. Left: 2nd Lt. Dan Wolfe, an engineer at the 311th HSW Program Office, explains how an ejection seat works to students during a recent Aerospace Career Day at Brooks. More than 600 students from local high schools throughout San Antonio attended the annual event, which showcased medical and scientific research performed at Brooks. (Courtesy photos) Right: Students in the Survival-Evasion-Resistance-Escape training course at the U.S. Air Force School of Aerospace Medicine, learn to manage their life rafts as part of their training. (Photo by Mr. John Jung)

Air Armament Center

For more than 67 years, Eglin Air Force Base, Fla., has been the warfighter's best choice for air armament and combat-ready forces in planning, developing, producing, fielding and sustaining all air-delivered munitions. The base's contributions have spanned seven wars and continue with Operations Enduring Freedom, Noble Eagle and Iraqi Freedom. Seventy-two percent of all the weapons dropped in Afghanistan were "smart" weapons that were developed and tested here. Precision guided munitions have revolutionized warfare by providing an affordable cost solution for low-collateral damage. Munitions successes include the Joint Direct Attack Munition, the warfighter's weapon of choice during Operation Enduring Freedom, the EGBU-15 enhanced guided bomb unit and the AGM-130 air-to-ground missile used for tunnel complex and cave entrances in Afghanistan.

Top: Senior Airman Duke Herman, 40th Flight Test Squadron helicopter crew chief, does a pre-flight inspection on one of Eglin's two UH-1N "Huey" helicopters. The helicopter is used in hurricane recovery. (Photo by Mr. Greg Davenport) Bottom: Staff Sgt. Christopher Beard, 40th FTS aircraft armament specialist locks an AMRAAM into place. (Photo by Ms. Doris Johnson)

The Air Armament Center, Eglin Air Force Base, Fla., is the center of gravity for air armament. The center is responsible for the development, acquisition, testing, deployment and agile combat support of all air-delivered munitions.

Responsibilities

The center serves as the focal point for all Air Force armament. It applies advanced technology, engineering and programming efficiencies across the product life cycle to provide superior combat capability to the warfighter. The center plans, directs and conducts test and evaluation of armament, navigation, guidance systems and command and control systems. It operates at two Air Force installations, Eglin and Kirtland AFB, N.M., by providing host support and supporting the largest single-base mobility commitment in the Air Force.

The center accomplishes its mission through four components. The first three are located at Eglin and are: the Armament Product Directorate; the 46th Test Wing; and the 96th Air Base Wing. The 377th Air Base Wing is located at Kirtland.

To date, Eglin has deployed more than 2,000 personnel in support of Operations Noble Eagle, Enduring Freedom and Iraqi Freedom.

Weapon systems

Air Armament Center is home to more than 40 weapon systems, including: the Advanced Medium Range Air-to-Air Missile; the EGBU-15, an enhanced model of the GBU-15; the GBU-28; the CBU-97/B Sensor Fuzed Weapon; the Joint Direct Attack Munition; the Joint Air-to-Surface Standoff Missile; and the Small Diameter Bomb.

Area

The base is the largest military installation in the Defense Department and consists of more than 724 square miles of land area and more than 93,000 square miles of water ranges for testing and training.

Tenants

Eglin has more than 60 tenant units. Most prominent are the 33rd Fighter Wing, the 53rd Wing, the 919th Special Operations Wing and the Air Force Research Laboratory Munitions Directorate. In addition to its Air Force tenant units, Eglin Air Force Base hosts a number of its sister services' organizations including the Navy's Explosive Ordnance Disposal School, and the Army's Camp James E. Rudder Ranger Training Site.

Budget

$3.9 billion

Contact information

http://www.eglin.af.mil or 850-882-1110 or (DSN) 872-1110

Top: Airman 1st Class Chris Hunter, 40th Flight Test Squadron crew chief, runs through pre-flight checks. (Photo Ms. Doris Johnson) Left: Staff Sgt. Michael Fralick, electrical power production craftsman, positions doughnuts on the BAK-12 aircraft arresting system. Doughnuts maintain proper cable height for planes to engage in an emergency landing. (Photo by Ms. Doris Johnson) Right: Senior Airman Jeremy Herren, 16th Electronic Warfare Squadron defensive avionics journeyman, installs a part that helps in creating signals for jamming techniques in the B-1 defensive avionics system. (Photo by Mr. Greg Davenport)

377th Air Base Wing

The 377th Air Base Wing's mission at Kirtland Air Force Base, N.M., is to provide world-class munitions maintenance, readiness and training, and base operating support to approximately 76 federal government and 384 private sector tenants and associate units. Technology developed at Kirtland plays an increasingly important role in fighting the war against terrorism. Technologies to foil biological and nuclear terrorists, tools to aid emergency and first-response personnel, procedures for improving airport and border security and tools to enhance intelligence-gathering capabilities are just some of the things which agencies at the base are working on. More specifically, scientists are developing anti-terrorist methods like anthrax detection devices, techniques to strengthen structures to withstand bomb blasts and non-lethal weapons technology.

Top: Airman Vanessa Dobos of the 58th Special Operations Wing Training Squadron was the first female aerial gunner to graduate from her technical school. As a gunner and member of a search-and-rescue crew on the H-60 helicopter, she will perform a combat duty that was formerly closed to women in the Air Force. Bottom: A member of the 377th ABW Security Forces guards the perimeter of a simulated deployed base during an exercise. (Courtesy photos)

The 377th Air Base Wing provides world-class munitions maintenance, readiness and base operating support.

Responsibilities

The 377th ABW operates both of the two critical asset depots in the United States for the Air Force.

As a unit of the Air Armament Center, Eglin AFB, Fla., the 377th supplies several hundred fully trained people for worldwide contingencies.

The wing provides security, legal, medical, fire response, personnel management, facility and utility management, housing, food service, chapel service, recreational, supply, airfield management and a myriad of community support activities for active duty, retired and civilian employees.

Area

52,678 acres

Tenants

The 377th ABW provides support to 76 federal government and 384 private sector tenants and associates to include: Air Force Research Laboratory's Directed Energy and Space Vehicle Directorates; Sandia National Laboratories; Defense Threat Reduction Agency; Air Force Inspection Agency; Headquarters Air Force Safety Center; Air Force Operational Test and Evaluation Center; Department of Energy's Albuquerque Operations Office; Space and Missile System Center, Test and Evaluation; Airborne Laser System Office; Theater Aerospace Command and Control Simulation Facility; 150th Fighter Wing; and the 58th Special Operations Wing.

Budget

$269 million

Contact information

http://www.kirtland.af.mil or 505-846-0011 or (DSN) 246-0011

Top: Three Kirtland AFB, N.M., defenders are prepared for an attack in their chemical warfare protective gear during an Operational Readiness Exercise conducted by the 377th ABW. The exercise, with live explosions and "terrorist attacks" allowed Kirtland warfighters to practice self-aid and buddy care and to locate and mark unexploded ordnance. Left: A 377th Security Forces Squadron airman patrols during an Air Force Materiel Command Operational Readiness Inspection held here October 2002. Right: 2nd Lt. Rafael Mercado (left) and Master Sgt. Deborah Burdette study the security forces response checklist for grid coordinates and traffic control points during a Full Spectrum Threat Response Exercise, which trains Air Force members to respond to events like the Sept. 11 terrorist attack on the nation. (Courtesy photos)

Electronic Systems Center

The Electronic Systems Center, Hanscom Air Force Base, Mass., delivered the NORAD Contingency Suite, allowing the North American Aerospace Defense Command to coordinate regional air defense by rapidly disseminating air-tasking orders and significantly improved operational situational awareness. Overseas, many of ESC's products, including platform-based surveillance, communications and landing systems, have seen heavy use in the Operation Enduring Freedom theater. ESC has delivered advanced force protection systems to deployed locations. The force protection airborne surveillance system, also known as Desert Hawk, has been a particularly significant resource for Central Command commanders. ESC assisted in building the state-of-the-art combined air and space operations center at Al Uedid Air Base, Qatar, which serves as a key counterpart to the one at Prince Sultan Air Base in Saudi Arabia built and equipped by ESC in time for the onset of the OEF air war in Fall 2001 and which has also served as the prime command and control facility for Operations Southern Watch and Iraqi Freedom.

Top: An artist's rendition of the Air Force's most recently designated aircraft, the E-10, Multi-Sensor Command and Control Aircraft. The aircraft will provide ground- and some airborne-moving target indication, as well as key battle management command and control. Architectural development, system engineering and integration of the Constellation are being managed at ESC. Bottom: An airman readies a Desert Hawk UAV for launch. The Desert Hawk is a small, seven-pound unmanned aerial vehicle, which can carry color video or thermal imagery payloads. Developed and acquired by the ESC Force Protection Command and Control Program Office in just 127 days, its mission is to enhance force protection and protect troops at deployed locations. (Air Force photos)

Electronic Systems Center is a world leader in the development and acquisition of command and control systems.

Responsibilities

Many ESC programs, such as Joint Surveillance Target Attack Radar System, Airborne Warning and Control System, constant source intelligence systems and force protection systems have performed well in conflicts such as Operation Desert Storm, Joint Endeavor and Allied Force over Kosovo and now Operations Enduring Freedom, Noble Eagle and Iraqi Freedom.

ESC is constantly upgrading systems to ensure they remain state-of-the-art. Testing and experimentation occur throughout development. These efforts are helping ESC move the Air Force toward a fully integrated and seamlessly interoperable command and control network, giving American and allied war fighters the right information at the right time so they can manage resources and defeat the enemy.

The 66th Air Base Wing provides responsive installation and support services for Hanscom.

Weapon systems

Manages more than 200 programs, including the Air Force Portal, CAOC-X, tactical automated security system, AWACS, combat intelligence system, MC2A, JSTARS, core automated maintenance system/reliability and maintainability information system, integrated management communications contracts, joint surveillance system, MILSATCOM terminal programs, multi-media automated system, multi-mission advanced tactical terminal and the theater battle management core system.

Area

846 acres

Tenants

Massachusetts Institute of Technology Lincoln Laboratory, Air Force Research Laboratory's Space Vehicles and Sensors directorates. Geographically separated units include the 38th Engineering Installation Group, Tinker AFB, Okla.; Cryptologic System Group, Kelly AFB, Texas; ESC Detachment 5, Peterson AFB, Colo.; Materiel System Group, Wright-Patterson AFB, Ohio, and Standard System Group, Gunter Annex-Maxwell AFB, Ala.

Budget

$3.2 billion

Contact information

http://www.hanscom.af.mil or 781-4441 or (DSN) 478-5980

Top: Controllers in the Combined Air Operations Center, at a forward base, monitor the status of ongoing Operation Southern Watch missions. Left: Maj. Gen. Robert Behler, Air Force Command and Control, Intelligence, Surveillance and Reconnaissance Center commander examines information from the Roll-on Beyond Line of Sight Enhancement, or ROBE, unit on board a KC-135 prior to take off. ROBE enables global dissemination of critical warfighting data necessary to compress decision cycles and expedite engagement of time sensitive targets. Right: The U.S. Band of Liberty, stationed at Hanscom, is comprised of 60 musicians. The band has been entertaining audiences throughout the New England region since 1978. (ESC photos)

Materiel Systems Group

The Materiel Systems Group supports customers' strategic business needs, transforming how Air Force Materiel Command delivers capabilities to its customers, and has extended its business model by developing an in-house rapid prototyping capability. Utilizing the latest information technologies to provide a quick turn-around of requirements through a proof of concept demonstration, this capability builds prototypes on an infrastructure that represents both existing and planned Air Force environments. The group's rapid prototyping team has helped construct the initial requirements for several capabilities currently under development, including the Commander's Strategic Management Information System, the Aircraft Battle Damage Assessment and Repair, the Flight Operations Collaborative Information System and the Deployment Qualification System.

Top: Mr. Marcus Palmer, a contractor for MSG shows off the new sunservers that are part of the Surveillance Target Attack Radar System labs. Bottom: An MSG contractor works on the Tivoli test bed in the lab. (MSG photos)

The Materiel Systems Group, a component of Electronic Systems Center, Hanscom Air Force Base, Mass., and located at Wright-Patterson AFB, Ohio, acquires and delivers fully integrated, agile combat support information solutions that enable operators to project military force and achieve mission success in support of U.S. interests.

Responsibilities

The organization supports the Air Force goals of information dominance by acquiring, developing, maintaining and providing technical services for some 150 information systems that represent a combined annual operating budget of slightly more than $300 million.

With the Deployment Qualification System, or DQS, and also known as "MyReadiness," the system provides an integrated tool to help units proactively manage deployment readiness with built-in roles for individuals, unit deployment managers, training providers and commanders. The group partnered with commercial vendors and AFMC subject-matter experts to quickly deliver an initial capability in response to the requirement.

The innovative approach and quick adaptation by AFMC units allows timely and accurate individual readiness indicators for warfighters. MSG's rapid prototyping capabilities represent an investment in meeting the future information solution needs of the Air Force.

Geographically separated units

Operating locations at Hill AFB, Utah, and Tinker AFB, Okla.

Budget

$336 million

Contact information

http://msg.public.wpafb.af.mil or 937-257-9861 or (DSN) 787-9861

Standard Systems Group

The Standard Systems Group, located at Maxwell Air Force Base, Gunter Annex, Ala., provides support to the warfighter through a number of programs. The Core Automated Maintenance System provides maintenance tracking for air vehicles, electronics, simulators, air ground equipment and other aircraft support equipment. The Defense Message System provides authentication and encryption capability for electronic mail. The Standard Base Supply System provides near real-time management of aircraft parts and equipment. The Combat Ammunition System tracks the location and status of all Air Force-owned conventional munitions. And the Global Combat Support System-Air Force is a modernization program aimed at modernizing existing logistics support systems.

Headquarters Standard Systems Group provides and supports secure combat support information systems and networks for the Air Force and Defense Department components. The group's core competencies include: information technology systems acquisition program management; combat support domain expertise; information technology insertion in business processes; network operations support and security; and commercial information technology product and service acquisition.

Responsibilities

Located as a tenant organization on Maxwell Air Force Base, Gunter Annex, Ala., SSG is a component of Electronic System Center at Hanscom AFB, Mass.

Headquarters SSG has more than 800 military members, 600 civil service employees and uses the services of hundreds of contractor personnel. The group designs, builds or buys, installs and supports systems necessary to provide the warfighter the right combat support information in the right place at the right time.

Within SSG seven information systems program offices support the operational Air Force via 61 information systems across the combat support arena including maintenance, transportation, supply, munitions, contracting, finance, medical and operations. These systems are used by more than 250,000 Defense Department users and at more than 200 operational locations around the world.

SSG's field assistance branch is the 24-hour, 7-days a-week point of contact for computer system trouble calls in support of the Air Force standard data system originating from DOD customers worldwide. The branch evaluates problems and provides solutions for approximately 14,000 calls a month, and maintains a current trouble call database.

Through the commercial information technology product area directorate, SSG provides the contractual vehicles used throughout the Air Force to acquire commercial off-the-shelf hardware, software and services at great prices used by virtually every organization on bases worldwide. SSG's AFWay is a web-based tool that improves the procurement and purchase approval process, enforces standards for information technology assets, and ensures positive asset control and accountability of hardware and software prior to product delivery.

Budget

$208 million

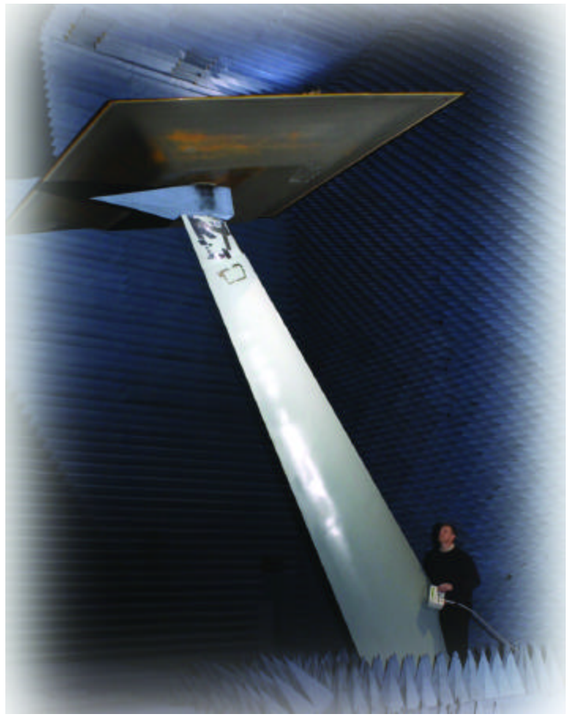
Contact information

https://web1.ssg.gunter.af.mil or 334-953-1110 (DSN) 493-1110

Top: The Integrated Maintenance Data System will provide a single virtual data repository for access by all Air Force command levels to support maintenance operations for aircraft, communications-electronics, support, test and precision measurement equipment at operational units throughout the world. (Photo by Tech. Sgt. Michael Lelyo) Bottom: Staff Sgt. Stacy Barnes handles a field assistance branch call from a field user. SSG's Field Assistance Branch provides a 24-hour, 7-day-a-week point of contact for all computer systems trouble calls supporting more than 100 Air Force standard data systems worldwide. (Photo by Tech. Sgt. Darlene Foote)

Air Force Research Laboratory

The Air Force Research Laboratory leads the discovery, development and integration of affordable warfighting technologies for air and space forces. AFRL partners with government, industry and academia pushing the limits of science and technology to accomplish this mission. The laboratory pioneers new capabilities to meet the needs of warfighters today, tomorrow and well into the future. AFRL leverages its technological information to offer potential solutions to warfighter needs for new technologies providing them a rapid response capability.



Top: Mr. Chris Clark performs final modifications to a target prior to radar cross section measurements inside an anechoic chamber in the signature branch of Air Force Research Laboratory's Sensors Directorate at Wright-Patterson AFB, Ohio. (Photo by Mr. Spencer Lane, WPAFB Public Affairs) Bottom: Mr. John Hagan, an explosive ordnance disposal technician with AFRL Materials and Manufacturing Directorate, prepares the advanced fire protection deluge system for a test. (AFRL photos)

The Air Force Research Laboratory, headquartered at Wright-Patterson Air Force Base, Ohio, consists of 10 directorates located across the nation, each specializing in a particular area of research. The AFRL team is made up of more than 5,200 members who get up close and personal with the discovery, development and integration of cutting-edge technologies for today, tomorrow and well into the future.

Responsibilities

AFRL develops technologies that strongly impact the future of the Air Force and ensures U.S. troops have the best capabilities at their disposal. Currently, AFRL is supporting the warfighters at home and abroad. Items they provide the warfighters on the frontline include the all-purpose remote transport system, used by explosive ordnance disposal troops, a system that allows explosive ordnance personnel to perform submunition and mine clearance operations while staying out of harm's way.

Another AFRL initiative is developing alternative bonded composite repair options for use on KC-135s. Yet another is the affordable moving surface target engagement team successfully demonstrating the ability to track a moving target with information that continuously redirects a JDAM weapon in flight to attack a target with 10-meters accuracy circular error probability.

On the homefront, AFRL developed a spray-on polyurethane elastomer coating for concrete block walls, reinforced concrete and lightweight manufactured structures. And a non-lethal weapon, called active denial technology, has been designed to "shoot" an electromagnetic wave of energy on individual targets. The energy, which barely penetrates the skin's surface, causes severe pain without causing lasting effects. An advanced metal detector technology is being designed for use in "gateways" similar to airport security portals. The device will not only indicate where metal objects are concealed but can identify them.

An AFRL variation of laser illuminator technology is being put into a flashlight that operates in the infrared wavelength. That wavelength makes the light invisible to the human eye but detectable with specialized equipment, allowing operators to observe people at night.

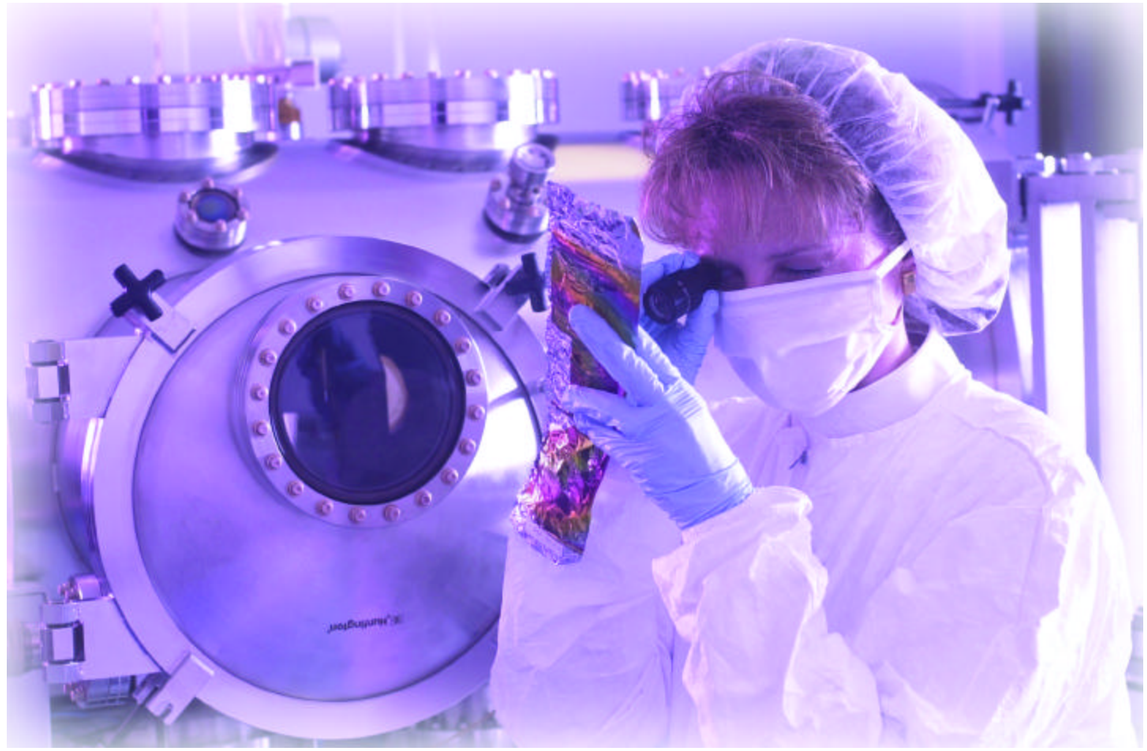
AFRL is striving to provide the warfighter the tools needed to win the war on terrorism. It is a team effort; work is being done in all 10 directorates and many individual projects are being worked by multiple directorates to ensure the best products for the warfighters in all branches of service.

Budget

$3 billion

Contact information

http://www.afrl.af.mil or 937-904-9851 or (DSN) 674-9851



Air Force Office of Scientific Research

Headquartered in Arlington, Va., AFOSR manages the U.S. Air Force's investment in basic research. The office accomplishes this task through strong, productive alliances with a wide array of government agencies, the academic research community and industry. They invest in long-term, broad based research in aerospace related science and engineering, and exploit revolutionary scientific breakthroughs to address the needs of the Air Force.

This directorate's mission to bring newly created scientific understanding and technology options from the scientific community has generated payoffs for weapons and devices in use by modern warfighters. The laser, precision munitions, stealth aircraft and the computer mouse are but a few of the most significant accomplishments derived from AFOSR-supported research.

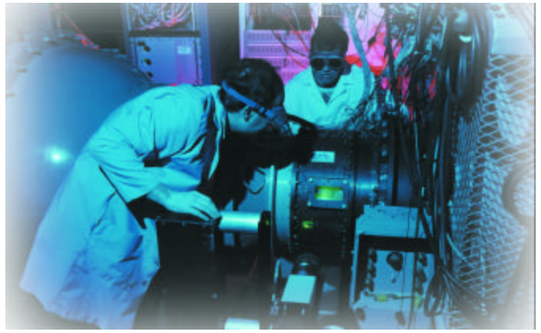
Air Vehicles Directorate

Headquartered at Wright-Patterson AFB, Ohio, the directorate leads the effort to develop and transition superior technology solutions that enable dominant military aerospace vehicles. The emphasis and vision are on technology development supporting cost-effective, survivable aerospace vehicles capable of accurate and quick delivery of a variety of future weapons or cargo.

To achieve this, core technology areas focus on aeronautical sciences, control sciences, structures and integration. The scientists and engineers target advanced concepts to direct the development of aerospace technologies that provide future capabilities in the areas of sustainment, air mobility, unmanned air vehicles, space access and future strike.

AFRL continued on Page 44

Top: Dr. Sandra Fries-Carr, a senior researcher, analyzes a diamond-like carbon film deposited on foil in the AFRL Propulsion Directorate at Wright-Patterson AFB, Ohio. Bottom: Mr. Mike Owens, chemical engineering technician, loads dry caustic into a solid conveying system at AFRL Materiels and Manufacturing Directorate. (AFRL photos)



Top: Members of the Compressor Aero Research Lab team examine the experimental set-up for making non-intrusive flow field measurements in an axial compressor research article. (Air Force Photo by Mr. Bill McCuddy) Middle: Mr. Seng Hong, an electronic engineer in the Electronic Warfare Branch of AFRL's Sensors Directorate, makes an adjustment to a transmitting antenna before a test in an anechoic chamber. (Photo by Mr. Spencer Lane, WPAFB) Bottom: Ms. Helen Dauplaise and Mr. Stephen Spaziani, both AFRL Sensors Directorate researchers conduct critical analysis of eye-safe optical detector arrays. (AFRL photo)

AFRL continued from Page 43

Directed Energy Directorate

Headquarted at Kirtland AFB, N.M., this directorate develops, integrates and transitions science and technology for directed energy, to include high-power microwaves, lasers, adaptive optics, imaging and effects to assure the preeminence of the United States in air and space. Its people provide research and development for leading-edge space capabilities as well as techniques and technologies to transition optical system to warfighting commands.

It is the Air Force's center of excellence for high-power microwave technology and the Defense Department's center of expertise for laser development. The Starfire Optical Range team conducts theoretical and experimental research in advanced tracking, adaptive optics, atmospheric physics and imaging of objects in space using large ground-based telescopes. The directorate also assesses potential applications and effects of systems using directed energy technologies.

Human Effectiveness Directorate

Located at Wright-Patterson, with additional research facilities at Brooks City-Base, Texas; Williams Gateway Park, Mesa, Ariz.; and Aberdeen Proving Grounds, Edgewood Arsenal Area, Md., the directorate's mission is to provide science and leading-edge technology to define human capabilities, vulnerabilities and effectiveness; train warriors; integrate operators and weapon system; protect Air Force people and sustain aerospace operations around the world.

The directorate's four technology thrusts are warfighter training, crew system interface, bioeffects and protection, and deployment and sustainment. The directorate collaborates extensively with other laboratory directorates, other Defense Department services and federal agencies, universities, industry, and state and local governments. The directorate hosts the Joint Non-Lethal Weapons Human Effects Center of Excellence at Brooks and manages the Human System Information Analysis Center at Wright-Patterson sponsored by the Defense Technical Information Center.

Information Directorate

Headquartered at Rome, N.Y., this directorate develops information technologies for aerospace command and control, and its transition to air, space and ground systems. Focus areas include a broad spectrum of technologies including information fusion and exploitation, communications and networking, collaborative environments, modeling and simulations, information assurance and defensive information warfare and intelligence information systems technologies.

Directorate scientists and engineers develop system, concepts and technologies to enhance the Air Force's capability to meet information-age challenges, and has intimately partnered with several elements of the federal government, national intelligence agencies, numerous allied nations, state and local governments, and more than 50 major universities to work problems of common interest.

Materials and Manufacturing Directorate

Headquartered at Wright-Patterson, with an additional research facility at Tyndall AFB, Fla., this directorate develops materials, processes and advanced manufacturing technologies for aircraft, spacecraft, missiles, rockets and ground-based systems and their structural, electronic and optical components.

Their research includes revolutionary nano-scale and biotechnologies, and computational materials science to achieve unprecedented levels of performance in new materials. Air Force centers and operating commands rely on the directorate's expertise in metallic and nonmetallic structural materials, nonstructural materials such as coatings, fluids and greases, nondestructive inspection, materials used in aerospace propulsion systems, sensor materials, laser-hardened materials, systems support and advanced manufacturing methods to solve systems, expeditionary deployment, and operational challenges.

Munitions Directorate

Headquartered at Eglin AFB, Fla., this directorate integrates and transitions science and technology for air-launched munitions for defeating ground, air and space targets to assure the pre-eminence of U.S. air and space forces.

Its people conduct basic research, exploratory development and advanced development and demonstrations. They participate in programs focused on technology transfer, dual-use technology and small business development. They are dedicated to providing the Air Force with a strong revolutionary and evolutionary technology base upon which future air-delivered munitions can be developed to neutralize potential threats to the United States.

Propulsion Directorate

Headquartered at Wright-Patterson, with an additional facility at Edwards AFB, Calif., this directorate develops air and space vehicle propulsion and power technologies. Focus areas include turbine and rocket engines, advanced propulsion systems and associated fuels and propellants for all propulsion systems.

Its people are responsible for most forms of power technology, making it one of the nation's leaders in their field. Programs address both future systems and the need to keep current system competitive, safe, affordable and effective. The directorate has contributed technology to more than 130 military and commercial systems.

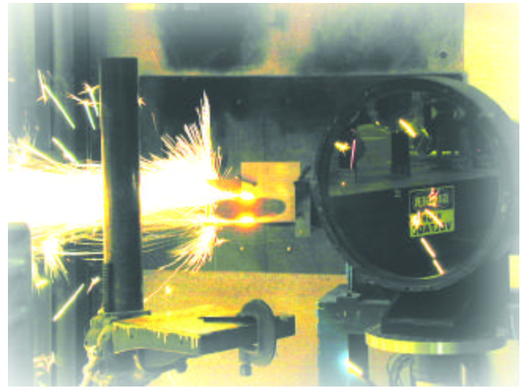
Sensors Directorate

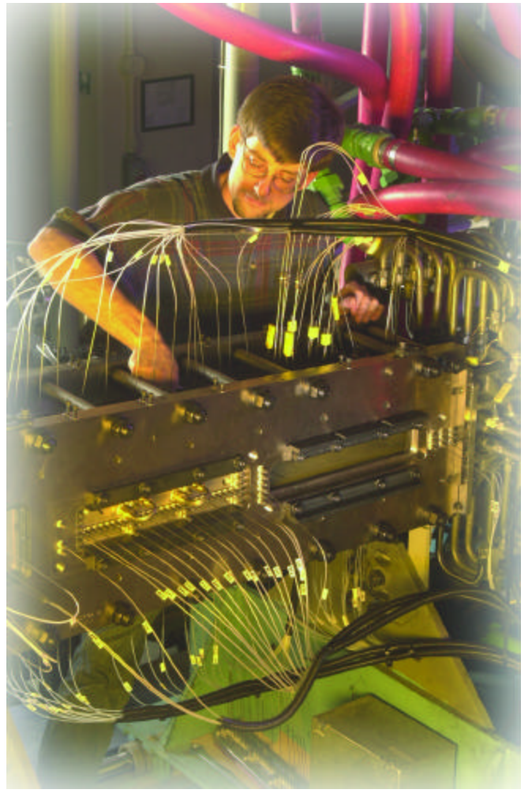
Headquartered at Wright-Patterson, with additional research facilities at Hanscom AFB, Mass., and Rome, N.Y., this directorate develops the new technologies that warfighters need to find and precisely engage the enemy and eliminate his ability to hide or threaten our forces.

In collaboration with other directorates and Defense Department organizations, the directorate develops sensors for air and space reconnaissance, surveillance, precision engagement and electronic warfare systems. They produce sensor and countermeasure technology enabling freedom of air and space operations, no sanctuary for our adversaries, and homeland security. Core technology areas include: radar, active and passive electro-optical targeting systems, navigation aids, automatic target recognition, sensor fusion, threat warning, threat countermeasures and protection of air and space systems.

Space Vehicles directorate

Headquartered at Kirtland, with an additional research facility at Hanscom, this directorate develops and transitions space technologies for more effective, more affordable warfighter missions. Its people leverage commercial, civil and other government resources that ensure America's defense advantage. Primary focus areas are radiation-hardened electronics, space power, space structures and control, space-based sensing, space environmental effects, autonomous maneuvering and balloon and satellite flight experiments.





Top: A 15,000-watt laser strikes a piece of titanium that is placed in a wind tunnel at the AFRL Directed Energy Directorate. The wind tunnel simulates a portion of an aircraft as if that aircraft is flying. Bottom: Dr. Mark Gruber, a senior research engineer in the propulsion sciences branch, readies a supersonic combustion Ramjet (scramjet) combustor for testing at Mach 4.5. (AFRL photos)

Air Force Security Assistance Center

The Air Force Security Assistance Center at Wright-Patterson Air Force Base, Ohio, develops and executes international agreements with friendly foreign forces to provide defense materiel, services and technology in support of U.S. national security, enhancing the security of the United States and its allies.

Top: Portuguese F-16s in formation. The Air Force Security Assistance Center negotiates foreign military sales and supports weapon systems such as the F-16. Bottom: AFSAC has defense agreements with more than 90 foreign countries. Canadian paratroopers are shown here near a Canadian C-130. (AFSAC photos)

The Air Force Security Assistance Center is a specialized center under Air Force Materiel Command, providing program management and advocacy for international customers consistent with national security policy.

Responsibilities

Air Force Security Assistance Center is responsible for overseeing AFMC product center and logistic center execution and support of foreign military sales. AFSAC's command country managers provide a single face to the foreign customer for the establishment, execution and closure of their FMS agreements, working with more than 90 foreign countries and international organizations, sustaining foreign military aircraft for the past 25 years. Combined, the countries have more than 6,600 aircraft ranging from the vintage C-47 to the modern Boeing 767 AWACS.

The AFSAC commander is responsible for AFMC's international affairs, and acts as AFMC's corporate leader for international business, as well as liaison to other Defense Department agencies in the Navy, Army, DLA, NATO, foreign embassies, defense ministry officials, the United States and foreign industry.

In this capacity, the AFSAC commander is responsible for the execution of the foreign military sales administrative budget of $71.5 million. With this budget, AFSAC and AFMC generate $2.5 billion of revenue annually.

The center employs approximately 1,900 people throughout the command for FMS support. The AFSAC commander is also responsible for foreign disclosure activities across AFMC.

Air Force Security Assistance Center has one geographically separated unit in Cairo, Egypt.

Weapon systems

C-47, C-118, C-119, A/T-37, C-123, A/T-33, T-34, T-37, C-7, F-100, F-104, T-38, A-7, C-130, F-111, F-4, F-5, F-15, F-16, E-3, 707, KC-135, AWACS 767, C-17, 737 Wedgetail, Joint Strike Fighter, AMRAAM missiles, JDAM bombs, AGM-142, Maverick missiles, LANTIRN, AIM 9/P-3/4/5, Sidewinder, Sparrow, Paveway, target drones, ground approach radar, fixed radar surveillance and tactical radar surveillance

Budget

$30.8 million

Contact information

https://rock.afsac.wpafb.af.mil/ or 937-257-4390 or (DSN) 787-4390

Top: Another weapon system the Air Force Security Assistance Center supports is the T-38, as shown here. (U.S. Air Force photo by Master Sgt. Fernando Serna) Left: An Australian F-111 with associated munitions. Right top: A Singapore KC-135, along with its support staff, stationed at McConnell AFB, Kan. Right bottom: Australian Defense Force personnel disembark from a C130-H on their arrival in Middle East. (AFSAC photos)

Aerospace Maintenance and Regeneration Center

The Aerospace Maintenance and Regeneration Center at Davis-Monthan Air Force Base, Ariz., has accelerated delivery of reclaimed aircraft parts and delivered more than 1,120 of them to deployed forces in support of Operations Noble Eagle, Enduring Freedom and Iraqi Freedom. The center is a critical parts supplier for operational B-52 H aircraft. AMARC field teams performed vital non-destruction inspections and repairs on A-10s in numerous locations, preventing the aircraft from being grounded. AMARC continues to withdraw aircraft in support of U.S. State Department foreign military sales negotiations with our allies, allowing the U.S. to achieve the goal of weapon system interoperability in a combined forces environment.

Top: Mr. Joe Winn (left) applies tape to a plastic wrapped F-16 fuselage, while Mr. Joe Wise (right) smooths a taped seam, sealing the aircraft which has been disassembled for overland shipment to Hill AFB, Utah, for delivery to the Italian Air Force. Bottom: The first of 24 B-1B Lancers due to arrive in the next year, this bomber flew into AMARC for reclamation, or parts removal, storage in August 2002. AMARC has currently received 13 B-1s for both reclamation and inviolate, or archival, storage. (Photos by Lt. Daniel King, AMARC Public Affairs)

The Aerospace Maintenance and Regeneration Center, Davis-Monthan Air Force Base, Ariz. provides for long-term aircraft storage, aircraft maintenance and asset regeneration for warfighter sustainment.

Responsibilities

Initially established as a storage activity for surplus aircraft, AMARC's role has grown considerably. Today its mission includes the storage of 4,400 aircraft, the reclamation of millions of dollars worth of parts to support ongoing flying operations and the regeneration of aircraft for operational use by our forces and for sales to our allies.

In fiscal year 2002, AMARC returned 99 aircraft and reclaimed 21,885 aircraft parts for a total output valued at $1.25 billion. Recent conflicts have elevated the necessity to ship reclaimed parts around the world to support our services in the commitment for peace. Partnered with Ogden Air Logistics Center at Hill AFB, Utah, AMARC completed installation of a global positioning system on 101 operational A-10 aircraft. The center is currently reclaiming and shipping A-10 wing assemblies to Hill for refurbishment and installation.

AMARC stores and manages more than 320,000 line items of production tooling and special test equipment for future use in support of B-2, B-1B, A-10, C-5, C-141, F-4 and EA-6B aircraft. In support of Air Combat Command, AMARC continues to regenerate and successfully deliver F-4 aircraft for the full-scale aerial target program.

The elimination site for heavy bombers under the Strategic Arms Reduction Treaty, AMARC successfully planned, managed and supervised elimination of 314 B-52 aircraft. K-12 saws were utilized for eliminations in 2001 to "surgically" cut the outer skin, preserving parts to support operational B-52H aircraft. As 32 B-1B Lancer bombers are under consolidation and being taken out of active service, AMARC is dedicated to providing long and short term storage, maintenance and parts reclamation of the bombers.

The center also supports specialized training efforts of the Air Force's aircraft battle damage repair and crash-damaged recovery teams, as well as the Defense Department and other federal agencies.

Weapon systems

AMARC's 617 employees maintain the specialized skills and knowledge necessary to work on more than 70 different types of model, design and series aircraft.

Area

2,600 acres

Budget

$47 million

Contact information

http://www.dm.af.mil/amarc/index.html or 520-228-1110 or (DSN) 228-1110

Top: Mr. Edward Oliver, AMARC technician, removes bolts from leading edge flaps in preparation for inspection and regeneration of this F-16. (Photo by Lt. Daniel King, AMARC Public Affairs) Left: Mr. Jose Cuevas, aircraft mechanic, successfully inserts a vari-ramp hinge pin on a German F-4FLV undergoing renovations at AMARC. (Courtesy photo) Right: AMARC technicians remove F-14 nose landing gear in support of Navy requirements in 2002. AMARCs mechanics move among approximately 70 different types of aircraft in storage, calling on years of prior military experience. (Photo by Tech. Sgt. Rian Clawson)

United States Air Force Museum

The United States Air Force Museum supports the warfighter by providing the public an intimate glimpse into the mission, history and evolving capabilties of the U.S. Air Force. Through its vast collection, sensory exhibits and informative and entertaining events, the museum encourages greater public awareness of, and support for, the Air Force's critical role in the nation's defense.

Top: The U.S. Air Force Museum and IMAX Theater at dusk. The museum presents the service's mission, history and evolving capabilities through aircraft, exhibits, special events and educational programs. Middle: Museum staff move the B-36 out of the museum's Air Power Gallery. The museum launched an intensive effort in late 2002 to revamp the flow of aircraft and exhibits into a more historically chronological order ahead of the museum's expansion. Bottom: A trainer exhibit at the museum. (Courtesy photos)

The United States Air Force Museum, Wright-Patterson Air Force Base, Ohio, preserves and presents Air Force and military aviation history to approximately 1.2 million annual visitors and the American public.

As the world's largest and oldest military aviation museum and the Midwest's largest free tourist attraction, the museum projects Air Force heritage and illuminates the story of the people and campaigns that comprise the service's history. With more than 300 aircraft and missiles and thousands of artifacts, the museum showcases the stunning technological progression that has unfolded from the days of the Wright brothers to today's stealth age.

The Museum complex is operated by the U.S. Air Force and falls under the operational control of the commander of the Air Force Materiel Command. The staff of 96 civil service employees and about 400 volunteers work across a diverse spectrum of functional areas to help sustain the Museum's reputation as an historical institution of international esteem.

The Museum hosts a variety of special events and educational programs to connect the public to the rich history of the Air Force and of military aviation.

In 2003, the museum is opening a 200,000-plus square-foot third building, to be called the Eugene Kettering Building in honor of the first head of the Air Force Museum Foundation's Board of Trustees. The centerpiece of a major museum expansion, the building will house a Cold War Gallery and will be a big part of the museum's commemoration of the Centennial of Flight celebration. Other more long-term expansion components include a hall of missiles, a Presidential aircraft gallery, a space gallery and an education center.

Anticipating the additional space that the new building would afford, the museum launched an intensive and comprehensive effort in late 2002 to reconfigure its galleries into a more chronological and thematic format. The project involved the movement of many display aircraft — including the massive B-36 — and exhibits to new locations in conformity with a master gallery layout plan that museum officials previously developed.

On Display

More than 300 aircraft and missiles and thousands of artifacts, more than 10 acres of indoor displays, Memorial Park featuring more than 400 memorials and plaques and IMAX Theater with six-story screen and a seating capacity of 500

Admission

Admission and parking are free. The Museum is open daily from 9 a.m. to 5 p.m.— closed Thanksgiving, Christmas and New Year's Day.

Contact information

http://www.wpafb.af.mil/museum or 937-255-4704 or (DSN) 785-4704

Air Force Reserve and National Guard

Members of the Air Reserve Component — comprised of Air Force Reserve and Air National Guard units and individuals — are crucial to making the Defense Department Total Force policy work. Air Force Materiel Command relies heavily on reservists who are part of the Air Force Reserve Command's Individual Mobilization Augmentee program. During normal operations, IMAs take over positions deployed active-duty members leave behind. When there is an increased operating tempo, such as with Operation Iraqi Freedom, IMAs step up to handle the increased workload — even if the active-duty members to whose offices they are assigned are not deployed. Most reservists, whether they are IMAs or assigned to Reserve units, are former active duty members and bring a wealth of knowledge and experience to the job. More than 1,021 Air Force Reservists and Guardsmen assigned to AFMC have been mobilized in the last year, in support of America's war on terrorism and to perform homeland defense duties.

The Air Force Reserve Individual Mobilization Augmentees and the Air National Guard provide trained individuals and units to accomplish tasks in support of national objectives, peacetime missions and mobilization readiness.

Air Force Reserve (AFMC)

Unit	Officer	Enlisted
Arnold	1	1
Brooks, 311th HSW	6	21
Edwards, AFFTC	60	71
Eglin, AAC	77	131
Hanscom, ESC	113	56
Hill, OO-ALC	121	303
Robins, WR-ALC	93	211
Tinker, OC-ALC	85	152
Davis-Monthan, AMARC	11	3
HQ AFMC	99	19
ASC	193	67
AFRL	176	7
Total	**1035**	**1042**

Air National Guard (AFMC)

Unit	Officer	Enlisted
130th EIS Salt Lake City, Utah	10	143
202th EIS Macon, Ga.	9	132
205th EIS Oklahoma City, Okla.	10	141
210th EIS Minneapolis, Minn.	7	103
211th EIS Indiantown Gap, Pa.	8	112
212th EIS Milford, Mass.	9	104
213th EIS Stewart ANGB, N.Y.	8	100
214th EIS New Orleans, La.	8	116
215th EIS Everett, Wash.	8	123
216th EIS Hayward, Calif.	9	103
217th EIS Springfield, Ill.	7	112
218th EIS St. Louis, Mo.	10	118
219th EIS Tulsa, Okla.	9	106
220th EIS Zanesville, Ohio	10	116
241th EIS Chattanooga, Tenn.	9	112
243th EIS South Portland, Maine	8	124
270th EIS Willow Grove, Pa.	9	104
272th EIS LaPorte, Texas	9	97
273th Beaumont, Texas	8	100
Total	**165**	**2166**

Top: Master Sgt. Chuck Tice, Air Force Reserve Ammunition Team, secures a guidance section from a Maverick missile into a 55-gallon drum for shipment. (Photo by Staff Sgt. Sean Houlihan, AFRC Public Affairs) Bottom: A KC-135 Stratotanker, such as those flown by the 927th Air Refueling Wing at Selfridge Air National Guard Base, Mich., delivers fuel to a B-2 Spirit bomber. (Courtesy photo)